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Professional and technical fields are the fastest growing occupational sectors in the US. More than one-third of all professional and technical workers are employed by government, particularly in administrative positions, and exert an increasing influence on public policy. But, with the exception of city managers, many of these employees regard themselves as members of the disciplines in which they were trained rather than primarily as public administrators. The field of public administration has not influenced public policy as much as other fields have, possibly because: it is not a specialized profession; practitioners do not agree on what its core knowledge, skills and orientation should be; and there is little incentive for students to pursue studies in the field since most administrative positions are held by other specialists. Although more attention in colleges is now being paid to administrative and management fields, courses are usually based on organizational theories of private business models, with little emphasis on the unique problems of government administration. Professional schools suffer from a general bias against teaching the kinds of subjects that might be useful in government jobs. Hence, many professional administrators lack the skills, knowledge or attitudes to deal with increasing social problems. To meet the growing demand and suggest future action for trained public administrators, a research proposal is offered for evaluating the roles of educational institutions, governmental agencies, and assessing the attitudes of professional public officials. (WM)

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PROFESSIONAL EDUCATION AND THE PUBLIC SERVICE

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Office of Education
Bureau of Research

PROFESSIONAL EDUCATION AND THE PUBLIC SERVICE

An Exploratory Study

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Preface: The Reasons for This Study

A few years ago a British scholar wrote a book entitled The Profession of Government,[1] an able and informative document about the administrative services of the countries of western Europe, not including Great Britain. The United States is probably the most professionalized country in the world today, in the sense at least of the quantitative proportion of the working force who are professional. Leaving aside the Communist countries where the differences between "public" and "non-public" employment are difficult to measure if not indistinguishable, the United States is also probably among the highest of the "developed" countries in the proportion of professionals and technical personnel who are employed by government. According to the 1960 census, the proportion here is above one-third. Yet there is not in the United States, and there never really has been, a "profession of government." A recent book was entitled The Professional: Lyndon B. Johnson,[2] but it was directed to the skill, the art and the experience of the politician, the "old pro," not to the "professional" as the term is generally understood. The field of academic study begun about half a century ago known as public administration aimed to give a professional strain to the practice of administration in government, but in this regard it has had only moderate success. Few of the administrators of government today regard themselves, more than secondarily, as members of a profession of public administrators. The city managers are the outstanding exception, but these comprise only a tiny--though significant--minority of our public administrators.

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[1] Brian Chapman (George Allen and Unwin Limited, London, 1959).

[2] William S. White (Boston, Houghton-Mifflin, 1964).

There are abundant reasons why in our particular culture we have not developed a class of public administrators, a "profession of government." But there are also abundant reasons for us to be concerned about those who are administering our public programs--their skills, their knowledge, their attitudes, their orientation. If the bulk of them are not members of a "profession of government," most of them nonetheless are professionals in government--professionally trained, professionally oriented. In fact, in no country of the free world is administrative leadership in government more concentrated in professionals than in the United States. But, I repeat, they are not members of a profession of government or of public administration. They are professionals in certain fields of knowledge and action, more or less identified with the purposes of the agencies which they administer. They are agriculturists in the Agricultural Research Service, officers in the Army, engineers in the state highway department, psychiatrists in the mental hygiene department, scientists in the Bureau of Standards or the Space Administration, meteorologists in the Weather Bureau, public health officers and welfare officers at every level of government, economists in the Council of Economic Advisors, investigators in the FBI, criminologists in a local police department. Secondarily, some of them may think of themselves as public administrators; but few would regard themselves as members of a "profession of government." Most, I suspect, would resent this label or that of "government bureaucrat." Yet this agglomeration of "professionals in government" will probably exercise more influence upon our society and the lives of each of us than any other cluster, whether it be the captains of industry, the leaders of labor, the faculties of universities, the politicians. We are all inescapably dependent upon the professionals in government and will probably be increasingly so in the future.

There is little agreement as to exactly what is meant by the word profession and what occupations should be considered to qualify as professions. But on one element, there is wide consensus: the importance of education at the university level, graduate or undergraduate or both, which is presumed to transmit the knowledges, skills, attitudes, and philosophies necessary for the performance of professional work. Most of such education is provided by universities, and a large part of it by separate professional schools on the campuses. Some governmental professionals, if we may use a liberal interpretation of the term, are produced by the liberal arts colleges, especially the natural scientists (chemists, physicists, biologists) and social scientists (clinical psychologists, sociologists, economists). In this country, the primary instrument for the production of professionals is the institutions of higher learning. And, in fact, when measured solely in quantitative terms, the production of professionals has become the largest part of the missions of such institutions (whether or not they realize it or like it). Some proportion of the graduates of professional study in virtually every field are destined to work for government--international or national or state or local. The range in these proportions among different fields is wide--from quite low in the cases of dentists or architects to dominant in public health, social welfare, and teaching, to virtually exclusive in the cases of the military services and diplomacy. Over-all, nearly two of every five professional graduates will be employed by government. Furthermore, if current trends in government employment and promotion continue, we may reliably assume that from this pool will in the future be drawn a large number of our top public leaders, those exercising the greatest influence upon the formation and execution of public policy.

It seems equally safe to assume, indeed it is virtually tautological, that the nature of professional education is having and will continue to exert a significant though largely indirect influence upon the course of government itself--upon its nature, directions, and effectiveness. For the student of government, a broader understanding of professional education and the nature of its contributions to the public service and public leadership should enhance his understanding of American government, even if he is theoretically inclined. For those oriented to practical problems and to improvement, the study of professional education in its relation to government may suggest leads whereby such education should be modified and whereby government may more effectively utilize the products of professional education.

There have been a considerable number of studies of education for individual professions, such as law, medicine, and engineering, and relatively fewer directed to education in such individual fields in its relation to governmental needs. But there is a paucity of studies on the professions and professional education as a whole, and almost none on their relation with the public service as a whole. What are the common denominators among the different professions in these regards, if any? And what are their differences? What do these similarities and differences mean for American government?

The present study is a preliminary effort to explore these and related questions. It is based principally upon existing data and literature and upon some correspondence and a limited number of interviews with public officials, representatives of professional organizations, and administrators and professors in a few professional schools. My objectives and my pretensions are modest. I have undertaken to identify and to organize some of the more important linkages between professionalism and professional education with the public service; to highlight some of the problems attendant upon this linkage today--both those which seem common among most or all of the fields of professionalism and those more or less special to individual fields; and, perhaps most important, to set forth hypotheses and questions to provoke and guide more intensive research in the future, research in greater depth of individual professions and their relation to governmental service, and research about the professions in general and their interrelationship with government.

CHAPTER I

THE PROFESSIONAL AND THE PUBLIC SERVICE

The first two-thirds of the twentieth century and particularly the years following World War II witnessed a remarkable growth in the United States of professionalism. This growth generated an academic interest in and knowledge about the professions and their relevance to society. Both the interest and the knowledge have accelerated since World War II. Virtually the same statements could be made about professional education in the universities. They could also apply nearly equally to pressure groups and their impact upon public policy. Somewhat more recently has developed the realization that professional organizations are among the most influential of pressure groups. Finally, there has been a parallel--though perhaps not quite equal--growth in concern about public administrators and training for them.

It is also remarkable that there has been so little interest in, and study about, the convergence of these contemporaneous developments. It is now generally recognized--often deplored and sometimes feared--that public administrators and administrative agencies have a significant impact upon public policy. It is also appreciated that the universities help to shape the professionals--their thinking, their values, their roles, their standards and norms, and their professional competence. It may be less widely known that the bulk of public administrators in the larger jurisdictions of the United States are trained in the universities as professionals and not as administrators.

The primary focus of this study and of others which I hope may follow it is upon the nature and adequacy of professional education in the universities for our future public administrators. The subject may seem a narrow one in comparison with the professions in general, or education in general, or pressure groups in general, or public administration in general. Yet its ramifications are far too broad for a few--or a few hundred--pages. In my judgment, they are tremendously important.

The Professionalizing Society

A distinguishing feature of an advanced and an advancing society is a relatively high and rising degree of occupational specialism. Another distinguishing feature is a relatively high and rising level of educational attainment, a substantial part of which is directed to the preparation for such specialism. The word "relatively" is here used with reference to comparisons among contemporary societies: between those considered advanced or developed or industrialized and those considered underdeveloped or developing. It is also applicable to comparisons of the same society over time, between past and present; but not between present and future. Whereas both specialization and education in the United States are today advanced in relation to the past, the current pace is such that a few decades hence they may well appear primitive. At least to some point, not yet determined and probably not yet reached, education and specialization are essential ingredients of general social and economic development; they are probably both causes and effects.

The changes which we are now witnessing in our society are doubtless as profound as, and more rapid than, those associated with the Industrial Revolution. The values and the power customarily associated with property, wealth, production, and industry are giving way to values and power of knowledge, education, and intellect. As Daniel Bell recently wrote: "To speak rashly: if the dominant figures of the past hundred years have been the entrepreneur, the businessman, and the industrial executive, the 'new men' are the scientists, the mathematicians, the economists, and the engineers of the new computer technology. And the dominant institutions of the new society--in the sense that they will provide the most creative challenges and enlist the richest talents--will be the intellectual institutions. The leadership of the new society will rest, not with businessmen or corporations as we know them . . . but with the research corporation, the industrial laboratories, the experimental stations, and the universities."[1]

In this process, the importance of the professions, among which are properly included the applied scientists of most disciplines, is increasing rapidly. Viewed broadly, they are the principal social mechanisms whereby new knowledge is translated into action and service (or disservice). They are the transmission belts whereby intellectual achievement becomes operational. The professions are increasingly dominant in the _workings_ of society, if not in the engines of change. In a recent issue of _Daedalus_ which was entirely devoted to the professions, Kenneth S. Lynn declared: "Everywhere in American life, the professions are triumphant."[2] In the same issue, Everett C. Hughes wrote: "Professions are more numerous than ever before. Professional people are a larger proportion of the labor force. The professional attitude, or mood, is likewise more widespread; professional status more sought after."[3]

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[1] Daniel Bell, "Notes on the Post-Industrial Society, (I)" _The Public Interest_, Vol. 6 (Winter 1967), pp. 24-35.

[2] _Daedalus_, Vol. 92, No. 4 (Fall, 1963), p. 649.

[3] _Ibid_., p. 655.

The U.S. Census reflects, in quantitative terms, the accelerating increase of workers whom it defines as "professional, technical, and kindred." In 1900, they constituted but one of twenty-three in the American labor force. By 1950, they were one of twelve, in 1960, one of nine, in 1966, one in eight. Over the first sixty years of this century, the average annual rate of growth of professionals was more than double that of all others in the labor force: 3 per cent per year as compared with 1.3 per cent per year. During the decade of 1950-60, the average annual growth rate of professions was more than triple that of other workers: 3.7 per cent compared with 1.1 per cent. There is every reason to believe that the growth of professional and technical workers is continuing at a rapid pace, though perhaps not accelerating as it did in the decade between 1950 and 1960.

The rapid growth of professional and technical workers in general obscures wide differences in the increase rates of individual fields. Some have mushroomed spectacularly while others have grown no faster than the non-professional labor force and a few have grown more slowly. Among the slowest growers over the past sixty years have been the best established, most highly respected traditional professional fields: the doctors, the lawyers, the dentists, the architects, and the clergymen. In striking contrast are the engineers. In 1900, the engineers were, numerically at least, a minor profession. There were more than three times as many doctors; three times as many clergymen; nearly three times as many lawyers. With the dentists and architects, these traditional professions in toto outnumbered the engineers by more than ten to one. By 1960, the statistics had more than reversed themselves. There were then 110,000 engineers more than the other five put together, and not one of these latter professions included as many as one-third the number of engineers.

The nearly revolutionary reversal of engineers relative to other well established professions is but one of several general conclusions that may be drawn from the statistical data concerning the changing contours of the professions in American society. Most of those to which attention will be called relate to trends in the decade of 1950-1960, and most of these are probably continuing to the time of this writing.

First is the explosive increase in the professionals concerned with the expansion and application of knowledge concerning external matters and things as distinguished from those involving services to individuals or groups as people. It is reflected in the large increases in natural scientists as well as engineers.

Second is the tremendous increase since 1950 in science, both natural and social, which is likewise reflected in the increases in college professors. It is noteworthy that the two categories of sciences show by far the largest percentage increases between 1950 and 1960.

Third is the substantial increase in persons devoted to education, at both grade school and college level. Teaching is providing a very substantial fraction of the total increase in professional personnel. And the large increase in the number of librarians also reflects the expanding emphasis upon education.

Fourth is the substantial growth in those fields in which women are the dominant or the major participants, notably school teachers, librarians and nurses.

Fifth, I note again the lethargic growth rates of the more traditional professional fields of law, medicine, dentistry, and architecture--all dedicated in substantial part to individual services to individual people. These are the occupations--and among them particularly law and medicine--which have provided our image of what a profession is. Yet today they constitute a diminishing minority of professionals in America, and their historic modi operandi are decreasingly representative of general professional practice.

The last point requires some expansion, for it reflects a larger phenomenon in American society. The traditional image of a profession envisaged individuals, specialized and educated in a given field, who offered their services in that field to individuals and were compensated by a fee, a system with which most of us who have gone to a doctor or a dentist, or have engaged an architect or a lawyer are familiar. Such a system still applies to some in virtually all the professions, and it remains the dominant pattern for most lawyers, doctors, and dentists. But these are professional fields which have not been growing rapidly. As long as a hundred years ago, there were twice as many professionals on a salaried basis as on a self-employed or fee basis. The proportion of self-employed professionals continues to decline; it was 11.8 per cent in 1960. Most professionals today are working for, and are paid a salary by, an organization--a private industry, a university, a hospital, a government. They are presumed therefore to be under the tension of mixing or somehow accommodating their professional values, standards, and objectives with those of the organization by which they are employed. The actual or potential conflict between profession and bureaucracy has been an object of a number of studies in recent years, principally in the business world. But it is important to emphasize that most professionals today are not "lone stars," working on their own for fees from private clients. They are "organization men," working on salaries as do most of the rest of us. And in this regard, those in government are comparable to the vast majority of their peers outside.

The Professionalizing Public Services

The American heritage includes, for a great many Americans, a myth that the administrative services of our governments consist primarily of an army of clerks, capped at the top by a smaller number of politicians, appointed or elected. The myth had more basis in fact two centuries ago and even one century ago. But today it is radically inaccurate. There are few institutions in our current society which rely more heavily upon educated, skilled, and specialized personnel than our governments. In 1960, those classified by the Census as "Professional, Technical, and Kindred" constituted about one in nine of the entire labor force; but of the civilian employees of governments, they constituted almost exactly one in three. In fact, more than one-third of all the "Professional, Technical, and Kindred" workers in the United States were employed by governments. The proportion is heavily weighted by the rapidly rising number of public school teachers, but even if we leave school teachers out, the proportion of professional and technical workers in government to total non-teaching public employment is nearly one-fifth (19.4 per cent) or two and a half times the comparable proportion in the private sector (7.7 per cent).

The relative importance of governments as employers of professional and technical personnel in the nation appears even more emphatic if we compare their numbers only with the numbers employed and paid by non-governmental organizations. It was noted above that the proportion of "self-employed" professionals has been declining and was below 12 per cent of all professionals. Eliminating this group from the calculation, we find that of all professionals working for organizations on a salaried basis, about two out of five were on government payrolls.

Review of the individual professional and technical fields in government, as they are defined in the Census, indicates that most of them fall into two fairly clear-cut categories: those in which two-thirds or more are employed by public agencies--and those in which one-third or fewer are employed by public agencies. Only a few fall between these groups--college professors and administrators and scientists. It must be borne in mind that the Census classification is insufficiently refined to enumerate many of those in government who might be treated as, and who no doubt consider themselves as, professionals--such as military officers, diplomats, city managers, city planners, criminologists, wildlife specialists, and others. The groupings of occupational fields obscure one important fact about the engineers. While the great bulk of all engineers are privately employed, nearly half (48 per cent) of those classified as civil engineers are in the public service.

Governments have, since World War II, been the principal contributors to the over-all professionalization of our society. They have led in three different ways. In the first place, governments as a whole have been among the fastest growing employers during this period, and the largest part of their growth has been in fields requiring large numbers of professionals, such as education, health and hospitals, highways, and scientific research and development. Almost all of governments' share in the total employment increase has been at the state and local level, an increase during the past decade of about fifty per cent. And a large share of this was new professional employment. Secondly, even among public agencies whose over-all employment has shown little increase, there has been substantial

Figure I

Government Professional and Technical Personnel in Selected Fields in Relation to Those Otherwise Employed (based upon the 1960 Census of Population)

Professional and Technical Occupation	Proportion of All in Field Who Are Employed by Public Agencies (%)	Proportion of All Government Prof. and Technical Pers. (%)	Number Employed by Gov't. (Thous.)
I. Predominantly Governmental (67% or higher)			
School Teachers	82	52	1,365
Foresters	78	1	25
Social Workers	73	3	69
Librarians	70	2	58
II. Mixed (Between 33% and 67%)			
College Professors and Presidents	56	4	98
Natural Scientists	42	1	28
Social Scientists	39	1	21
III. Predominantly Non-Governmental (33% or lower)			
Personnel and Labor Relations	33	1	32
Nurses	24	5	140
Engineers	17	6	147
Accountants	17	3	79
Physicians	15	1	34
Lawyers and Judges	15	1	31
Chemists	13	-*	11
Architects	9	-*	3
All Professionals and Technical Employees	36	100	2,625

*Less than half of one per cent.

shifting in the make-up of the employment, and this has very largely in the direction of up-grading of personnel--from blue collar to white collar and from clerical to professional and technical. This phenomenon, which has been particularly conspicuous in the Federal government, is discussed later. Thirdly, governments, and particularly the Federal government, have increasingly supported the employment of personnel through procurement, contracts, grants, and subsidies; and a substantial fraction of such private employment for public purposes has unquestionably been professional, scientific, and technical. It is estimated that more than six million persons are employed in private industry to provide goods and services for governments.[4] The Department of Labor estimates that two-fifths of all scientists and engineers in the United States are employed on government-supported programs;[5] and these are of course among the fastest growing categories of professionally qualified persons. In fact, were we to add to the governmentally employed professional and technical personnel those working for private employers on government supported programs, the probable finding is that two of every five professional and technical workers, in all fields, are supported by government. Obviously, a very large share of the current professional and technical revolution in the United States is governmental.

Public Policy, Administration, and Professionalism

More significant than the quantitative, statistical picture is the actual and potential impress of professionals upon public policies and the way they are carried out. One betrays no secrets nor occult wisdom to observe that a large part--in most governments the bulk--of public policies and programs are initiated and are either decided or proposed by and within administrative agencies of government. Practically all of them are carried out by such agencies. The kinds of people who compose and who lead in those agencies, the kinds of abilities, perspectives, and values which they bring to bear upon policy issues are therefore a matter of legitimate concern to all citizens. It is the premise of this report that, in a large number of the most important public agencies, policy and administration are dominated by identifiable professional groups or groups of personnel who aspire to be recognized as, and who act like, such professional groups. There is a surprising degree of parallelism between the organizational structure of public agencies and occupational specialization in society and within the government itself, with the consequence that specialists come to dominate public programs in the fields appropriate to their recognized competence. In general (though with a few exceptions), where pre-entry education in the occupational field to the level of the bachelor's degree or higher is considered requisite to journeyman status, the field comes to be regarded as professional. The degree to which professions dominate individual agencies in the public sector is suggested by the examples below. The right hand column indicates the primary professional field dominant in each agency.

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[4] Manpower Report of the President and A Report on Manpower Requirements, Resources, Utilization, and Training by the United States Department of Labor (Washington: U.S. Government, April 1967), p. 30.

[5] Ibid., p. 173.

Federal

All the military agencies	Military officers
Department of State	Foreign Service officers
Public Health Service	Public health doctors
Forest Service	Foresters
Bureau of Reclamation	Civil Engineers
Geological Survey	Geologists
Department of Justice	Lawyers
Office of Education	Educators
Bureau of Standards	Natural scientists

State and Local

Highways and other public works	Civil Engineers
Welfare agencies	Social workers
Mental hygiene agencies	Psychiatrists
Public health agencies	Public health doctors
Elementary and secondary education	Educators
Higher education	Professors
Attorneys general, district attorneys, legal counsel	Lawyers

The Level of Leadership

Perhaps the most significant aspect of the professional revolution within government has been the emergence of professionals, liberally defined, to positions of direction and control of the major subject matter agencies. The process of professionalization of agency leadership has been proceeding, though at uneven speeds, for at least the last century; in the years since World War II, it has greatly accelerated. There has been an increasing identification of professional fields or disciplines of study with governmental programs to the point that, in a great number of the programs, one or another professional discipline has a complete monopoly of the leadership positions. In some cases, the monopoly is written into law. It is, for example, virtually unimaginable, that the Attorney General (indeed, any attorney general or general counsel) would not be a lawyer; that any director of highways not be an engineer; that the director of any sizable public health service not be a public health doctor; that the director of any forest service not be a forester; that the head of the Geological Survey not be a geologist; that the Chief of the Bureau of Standards not be a scientist; that the commander of any bureau or army or service of the military forces not be an officer of the appropriate branch and service.

The picture is less clear among agencies the main thrust of whose work does not fall within the appropriate scope of a recognized occupational group, and some new agencies and others whose missions are in a condition of rapid change lack such clear-cut professional leadership. But even here, if a new or changed governmental program stabilizes and continues over an extended period of years, the tendency will be for the core of its work and workers to become identified with an existing professional group or to develop a new and indigenous profession.

In most units of American government, there is a layer of political officers, appointive and elective, above the professional agencies. Historically, this stratum has been occupied by persons not specialized in the activities which they superintend. During the nineteenth century, most of these were lawyers in the national and many state and local governments. Recent studies however indicate that this political group is likewise moving haltingly in the direction of professionalism (other than law). Those positions in which there is no assurance of tenure--department heads in cities and states, bureau and independent agency chiefs in Washington--are filled in a large number of cases by professionals in fields appropriate to the missions of their agencies.

Kinds of Professions in Government

A profession is here construed, liberally, as (1) a reasonably clear-cut occupational field, (2) which ordinarily requires specialized educational preparation, at least to the level of a bachelor's degree, and (3) which offers a life-time career to its members. This is admittedly a loose definition which might not satisfy some students of occupations. It is deliberately intended to comprehend some vocational fields which are not yet generally and publicly recognized as professions and do not yet possess all the attributes of a fully developed profession. Among these attributes may be mentioned: a formal professional organization; an orientation to service as against purely private and personal goals; establishment and recognition in law; individual autonomy in performance of work; minimal standards of performance; enforced limitations upon entry; and a code of ethics. In terms of governmental consequences, the liberal usage is more appropriate. In these terms, for example, the officers of the U.S. Navy are as "professionalized" as medical doctors, even though they are not widely considered to constitute a profession.

The professions in government may conveniently be divided in two classes: First are those in fields employed both in the public and the private sectors and for whom the government must compete in both recruitment and retention. This category, which I shall call "general professions," includes most of the callings commonly understood as professions: law, medicine, engineering, architecture, and many others. I also include among them applied scientists in general and college professors. Second are those employed predominantly and sometimes exclusively by governmental agencies, which I shall call "public service professions." Most of these were generated within government in response to the needs of public programs, and although there has been a tendency in the direction of increased private employment for many of them, governments are still predominant employers. They fall in two classes: first, those which are employed exclusively by a single agency such as military officers, Foreign Service officers, Coast Guard officers; and second, those employed by a number of different governmental jurisdictions, such as school teachers, educational administrators, social workers, public health officers, foresters, agricultural scientists, librarians.

Most of those listed above in both categories may be described as "established professions" in the sense that they are widely recognized qua professions and, with only a few exceptions, their status has been legitimized by formal state action through licensing, credentialling, commissioning, or recognition of educational accreditation.

In addition to these, there are a large number of "emergent professions" which have not been so recognized and legitimized but which are valiantly and hopefully pulling themselves up by their vocational bootstraps to full professional status. In the "emergent" and "general" group are included, for example, specialists in personnel, public relations, computer technology, recreation, financial management, purchasing, etc. "Emergent" in the "public service" category are governmental sub-divisions of all of these and some which are more exclusively governmental: assessors, police, penologists, employment security officers, air pollution specialists, etc.

Some Consequences of Professionalism for Public Agencies

Observation of a number of those public organizations in which an individual profession has gained acceptance as providing the basic skills necessary to agency purposes suggests certain generalizations about the relationship between professionalism and agency administration. In general, these consequences are more consistent where the profession is well established, and most of them apply whether it is a general or a public service profession.

In the first place, the profession has staked out the organizational territory in the appropriate agency over which it claims effective suzerainty. It has identified those positions which are decisive with regard to agency leadership and has established the minimal professional standards for filling them. It has identified the boundary lines (or, perhaps more accurately, boundary zones) of its claim and defends them vigorously, often by trying to extend them. More often than not, the boundaries are contiguous with that of the organization itself. Within those territorial boundaries, it resists outside intervention and interference. Thus, in the total framework of government, its tendency is _centrifugal_--away from control and influence from central staff agencies, the chief executive, the legislature as a whole, and the public in general. The close identification of organization with profession strengthens the bond, the loyalty, and the dependence of professional members toward both the organization and its dominant profession. There has typically been, over the years, a process of mutual adjustment between organizational goals and activities and professional attitudes, skills, and content, and this process continues and quickens in a social context of change and a professional situation of rapid development of knowledge.

Secondly, members of the profession within the agency have constituted themselves an _elite_ with substantial control over all agency operations, significant and perhaps decisive influence over agency policies, and high prestige within the agency and often, also, outside of it. It should be observed that in no sizable and complex organization can a single specialized group operate entirely by itself without assistance and participation by personnel who are not members of that group. Usually there must be administrative, clerical, custodial, labor, and sub-professional-technical support. In large and medium-sized organizations, there are usually also members of other professions contributing to the work of the agency. Whatever the social standing of these other professions is in society at large, within the agency it almost always is second or below in relation to the elite profession. In numbers, the elite may constitute a tiny minority of all employees of the organization--as psychiatrists in mental hospitals, public health doctors in local health departments, officers in the Department of the Army, and Foreign Service Officers in the Department of State. Within the elite group itself is likely to develop a spirit of mutual support and collegial administration; the top ranking professionals view their roles, and are viewed, as representatives of the interests of the entire elite group rather than as commanders. Toward others in the organization, not members of the elite, their posture is more often somewhat distant and polite, paternalistic, sometimes defensive and even hostile if the outside group is offering a challenge.

A third consequence of professionalism within public agencies is the drive toward self-government, with particular emphasis upon personnel administration. That is, the elite corps seeks control over personnel standards, policies, and individual actions relating to its members and dominant influence over personnel policies and actions governing non-elite personnel who might compete with the members. This phenomenon is most obvious in those agencies whose elites are established by law outside of any generalized civil service system--as the various branches of military officers, the Foreign Service, the Coast Guard, the national public health officers. But it is also evident in civil service agencies where, in effect, the decisions about personnel have been delegated to the professional elites within the agencies. Among the general and established professions, decision-making about initial appointments is performed by the various state licensing boards, themselves largely controlled by the professional organizations. And among both the general and public service professions, the institutions of higher education play a substantial role through the processes of degree-granting, accreditation, and faculty recommendations. The historic activities of civil service in recruiting and competitive examinations are of diminishing importance in selection of professionals. In a good many places, and for a good many positions, they have vanished.

The fourth (and final) consequence of professionalism to be mentioned here is the drive of professional elites to assure their members the opportunities, advancement, and protections of careers within their agencies. Once past the gates of the university and its degree and/or the licensing examination and/or selection by senior professionals in the agency, the recruit may be confident that he can spend his working life in the agency and can advance to journeyman level and can compete for the upper level positions--assuming, of course, that he performs satisfactorily in accordance with the standards and ethos of the profession in the agency. Most of the professionalized agencies rely primarily upon direct recruitment from the colleges and universities, advancement upon the basis of seniority and sometimes also efficiency ratings, and protection from competition with outsiders (lateral entry). Career systems of personnel administration appear to be normal and expectable consequences of strong and continuing professional elites, dominant in agencies. This is true whether or not the agencies are governed by civil service laws. Among the common attributes and consequences of career systems may be mentioned:

a high degree of interdependence between the system and its members; strong identification and loyalty feelings by members partly because it represents a merger between the otherwise competing loyalties of organization and profession;

emphasis upon rank in the man rather than in position;

emphasis upon status--as differentiating career system members and outsiders and also differentiating ranks within the system;

stability, continuity and conservatism (with respect to changes in the system but not necessarily change outside of it or political change);

emphasis upon the approved norms and standards of the career system, which of course include professional norms within the agency.

These four tendencies then may be considered common, even normal, for professional and professionalizing agencies: territorial control and accompanying centrifugal pull from central government; elitism; self-government; and careerism. The depiction presented above is over-simplified and, for purposes of emphasis, somewhat exaggerated. It is improbable that any professionally dominated agency in American government would present an "ideal type" in all these respects, although I suspect that a few are well down the road. In a rapidly developing and changing society, there are countervailing forces working against the establishment of professionally dominated agency fiefdoms. Some of these are discussed in the paragraphs which follow.

Common Trends and Problems of the Professions

Although every profession is different and to some extent unique, the examination of several of them, operating in widely diverse fields, suggests that most if not all of them are parallel in their directions of development and the problems which they are facing. I shall in this section undertake to identify and describe some of these directions and problems, with particular emphasis upon those relevant to the conduct of American government. (The impact of these directions and problems upon professional education is reserved for a later chapter.)

It appears that the very factors and forces which have given rise to the accelerating growth of professionalism and to the proliferation of professional specialties are fomenting the major problems of the professions, both the ancient and the newly established ones. These include: the accelerating changes in social structure and institutions; the rapid growth in individual income and with it the growth in education; the accelerating range and depth of knowledge accompanying the burst of science; the increasing specialization both of knowledge and of work activity; the changing of value systems in the direction of knowledge and intellectual competence and away from property and income competence. The professions, like other institutions, once established and recognized, are conservative. They seek to preserve their prerogatives, their monopolies, in given areas of activity. A profession carves out, defines, legitimizes, perhaps legalizes a sphere of action in which it possesses unique tools and knowledge with which to operate. But then, with rapid social change, the nature of the problems change; with rapid technological change, the nature of the relevant tools and knowledge change; with rapid scientific development, the requisite knowledge both widens and deepens. Perhaps most important of all, as understandings of problems of both a physical and social nature broaden, it becomes increasingly clear that solutions depend upon no single set of methods, no narrow body of knowledge, but require contributions from a number of perspectives and with a variety of tools. They are inter-disciplinary and inter-professional. The professional credential of a few decades ago, or a few years ago, or sometimes even a few months ago can become obsolescent if not totally obsolete. Thus the very bursts of knowledge and specialization which have given rise to most of our professions are also sources of the principal challenges to their continuing effectiveness and integrity.

Changing Problems and/or Understandings About Them

Probably every profession has faced or is facing the situation in which the subject matter with which it was initially designed to cope has altered more or less radically. Partly this has resulted from objective changes in society; partly, from enlarged scientific knowledge relevant to such subject matter; partly, from changing popular understandings of what society--either through private enterprise or public programs--could and should do in certain areas. Not too long ago, the words cancer, syphilis, and contraception were verboten in polite society, and a trip to the moon was science-fiction. Probably every one of the older professions has had to shift its sights, and for some of them such shifting is a continuous process. A dramatic example is the field of public health which, through its own great success in its primary initial objective--the elimination of communicable disease--might well have brought about its demise. Over the course of the past two decades, it has virtually revolutionized its orientation in the direction of chronic disease, research, environmental health, individual care, preventive health measures, care for the indigent and aged, etc. Architects must now be concerned with a great deal more than the design of individual buildings; military officers are still struggling with the invasion of a vast new technology in virtually all of their traditionally rather simple fields of activity; so are doctors, a declining minority of whom spend the bulk of their time in individual bedside care of the sick. Psychiatrists, long oriented to the extended analysis and treatment of individual patients "on the couch," now manage those enormous institutions once known as "insane asylums" and a vast array of mental health clinics.

The examples of shifting problems and shifting directions of the professions are almost endless and must comprehend virtually all the fields conceived of as professional. And it should be noted that few of the new public programs are directed to, or can be accomplished within, the traditional confines of any single profession. (For example, the Peace Corps, the War on Poverty, foreign aid, desegregation, air and water pollution, crime control.) If, as I believe, the bulk of our modern professions were initially developed to operate in some identifiable problem area, all of them have had to make major adjustments in their view of their mission and in their tools to meet them; and for most of them, such adjusting must be a virtually continuous process.

The Maintenance of Boundaries

Every well established profession, by its own definition, has staked out a territory of activity in which it hopefully claims exclusive prerogative to trespass. Their minimum or inner boundary lines may be protected by law, but almost always there is an area beyond a boundary zone, in which the profession seeks hegemony, partly perhaps to assure the inviolability of its inner boundary. The maintenance of the inner boundaries and the occupancy of the boundary zones are the sources of frequent, in some cases, continuous warfare: as between different but contiguous professions (e.g., medicine and psychiatry; public health and social welfare; military and foreign service); as between professionals and "generalist" administrators (most governments and businesses offer abundant examples); and as between professions and politicians (likewise illustrated in a great many governments).

Against some of these challenges, the growth of specialized knowledge and of the accompanying incapacity of the layman to understand, let alone cope with it, strengthens the professions in defending and extending their inner boundaries. The amateur practitioner who would compete is at an increasing disadvantage; the generalist administrator finds it harder and harder to direct and supervise professional subordinates; and the politician is increasingly disadvantaged to contest professional decisions. Indeed, so one-sided would these contests become--other things being equal--that one can imagine that the logical conclusion of the development of specialized knowledge would be a professionally dominated society, governed by a "professional state."

But the growth of knowledge also works in compensating directions. It increases our awareness of social and physical problems and of their sources; and it also increases our readiness and ability to cope with them. And, as indicated above, the problems themselves as they become understood disdain accustomed occupational and specialized boundaries. Furthermore, the sciences upon which most of the professions are based, are increasingly inter-locked and interdependent. This is obviously true among the physical sciences on one hand and among the social sciences on the other, and to an increasing extent between the social and physical sciences. Few professions can longer claim a base in a single science, social or physical, any more than can any single science longer claim an exclusive mastery of any major problem area, social or physical.

In confronting these dual challenges--to their boundaries of social problems and of scientific development--the professions pursue a number of different courses, singly or in combination. First, they may hire or contract for the use of other knowledges and other professions outside of or beyond their own immediate boundaries, thus maintaining as far as, and as long as, they can ultimate power and control in the territory which has historically been their own. Thus have the military officers maintained hegemony whilst utilizing the specialized competences of scientists and professionals in a variety of fields; the foresters have employed engineers and agriculturists; the public health officers have employed sanitary engineers and dentists; and the prison wardens have employed sociologists and psychologists; etc.

Second, they may enter with other kinds of specialists on a cooperative and approximately equal basis in the treatment of problems in the boundary zone. This is the "team" approach. It is exemplified in a great variety of fields: in scientific research and development wherein a physicist, an astronomer, an engineer, a chemist work together on a common problem; or in a medical case or research problem involving participation by a pathologist, anatomist, nutritionist, and neurologist; in a mental health case or problem involving a psychiatrist, a psychiatric social worker, a psychologist, and a physical therapist; or an urban problem, calling upon the knowledge and talents of an urban economist, a demographer, an engineer, and a political analyst; or a foreign affairs problem requiring a country political specialist, an anthropologist, an international economist, and a linguist. The examples are legion in virtually every field. And the usage of such teams appears to be growing.

The third strategy of professions in meeting the challenge of broadening knowledge and broadening problems is to widen the boundaries of their own activities. This means taking in, at their base, a broader foundation of knowledge and in their operations a broader range of activity and responsibility. The process of assimilation in competition with other professions may be difficult and highly competitive. As will be discussed below, the ensuing digestion can be most disruptive, even destructive of the unity and integrity of the profession itself.

Intra-Professional Fission

The broadening of knowledge at the base of a profession, together with the widening of the boundaries of its legitimate and more or less exclusive operation has had an inevitably fissiparous effect upon the cohesion and community of the profession as a whole. Individual groups of professionals, whose work is focussed on common problems that are distinct from the general profession as a whole and is based on a particular sector of knowledge and science, develop a sub-community of interest and association. And as such sub-identity grows stronger, the ties to the broader parent profession weaken. The very process of specialization--of knowledge and activity--which gave rise to the professions in the first place, as it carries further forces sub-division into professional segments and sub-segments. Each sub-field is likely, to some extent, to attract different kinds of recruits, to generate its own system of values and perspectives as well as its distinctive techniques, further weakening the sense of identity with the larger parent profession. In some instances, this leads to an open break between the segment and the larger profession, or a new linkage of a segment with some other professional or scientific field; in others, to a situation wherein the larger profession becomes a loose confederation of specialized principalities, each with its own interests and boundaries and sometimes in continuing warfare with one another.

This process of fission is perhaps best illustrated by the older and larger professions such as medicine and engineering. The original division in engineering was that between military and civil, which occurred more than a century and a half ago. A recent count of engineering specializations showed more than twenty different ones. There is no comprehensive engineering organization which commands membership of more than a small number of fields, and there are more than one hundred different engineering organizations. In medicine, although there is a strong comprehensive medical organization (the AMA) at least in the view of the public, there are a vast array of sub-specialties and sub-sub-specialties, each with its own organizational expression. A recent study of this process of fission in the field of medicine identified a large variety of elements in which each sub-field was distinguished from the others and was more or less unique:[6]

its unique mission
distinctive work activities
methodology and techniques
clients
colleagueship--esprit de corps
interests and associations (professional organizations)

But engineering and medicine are only well developed examples of a phenomenon which is common among virtually all the professions. And the process of fission is in all probability accelerating during our current years with the rapid advances in research and the depth of scientific knowledge across the entire frontier. It is worthy of note that the view of professions as cohesive, single entities persists among those who are outside them; and they can continue to exercise social and political influence as long as they can maintain the appearance (or illusion) of internal unity.

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[6] Rae Bucher and Anselm Strauss, "Professions in Process," The American Journal of Sociology, Vol. LXVI (January 1961), pp. 325-334.

Viewed as vocational communities, the professions seem surprisingly similar to other kinds of communities in our social and political environment. They are sub-divided, sub-grouped, forming alliances and blocks, sometimes affiliating with groups outside the profession. Most of the sub-groups and the individual members of a profession have a stake in maintaining some degree of unity in order to advance their recognition and influence upon society. There is thus a continuing struggle between centripetal and centrifugal forces within each profession, more or less comparable to that so frequently remarked in government. There is a continuing striving for a basis of unity which will tie the many strands together, yet maintain a clear distinctiveness from other professional groups. There is a search for a common basis in doctrine, acceptable to all but not so generalized as to be meaningless. And there is a search for a common, central core of knowledge and technique.

Some Impacts of Science

It appears to be widely believed--and in the main it is probably true--that the professions are based upon scientific knowledge or, more specifically, the application of science to the problems of society and its members. "Engineering, medicine, and law, in different ways, have the function of taking the abstractions of science (or other systematic knowledge) and applying them to the concrete and practical affairs of men."[7] The scientific basis of the professions is less evident in their history and development. The classic professions of the middle ages--clergy, law, and medicine--developed before there was much science to go on, although each had some foundation of "systematic knowledge," or at least systematized belief. Training for most of the early professions consisted in apprenticeship, whereby the wisdom of experience could be passed along to the neophytes. Even some of the newer professions got under way before there was much scientific knowledge applicable to their activities--such as agriculture or forestry or public health--but it is true that among their founders there was a faith that scientific bases could be developed, and they sought at an early stage to initiate research for that purpose. It is also true that, as they developed and became more sophisticated, research and the development of relevant knowledge proceeded, often sponsored and conducted by arms of the professions themselves. The history of professional development was generally a progress away from the rules of experience, rules of thumb, to rules from the laboratory and other systematic research.

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[7] Don K. Price, The Scientific Estate (Cambridge: Harvard University Press, 1965), p. 122.

The mushrooming of scientific investigation in recent decades has greatly complicated the problems of the professions. In the first place, it is increasingly difficult to keep up with the pace. A profession has difficulty keeping within shooting range of the frontiers of knowledge relevant to its practice. Their translation and integration into the codes of professional practice become a greater and greater challenge. It is complicated by the fact that science is becoming increasingly interdisciplinary. A good deal of research, probably most of it, is carried on by others than those oriented to the professions themselves, and much of it is not performed for the purposes or problems of the professions. Yet it may have the highest relevance to their activities. Virtually every profession is today dependent upon scientific knowledge deriving from a considerable variety of fields or interdisciplinary combinations thereof.

This of course raises serious problems in the educational preparation of new professionals: how to pack into their few years of formal instruction all the knowledge which they will need. But the problem is greater for the practitioner a few or many or a great many years after he has completed his professional education. Even were he an exceptionally able student, he may find that the knowledge, the orientation, and the methodology that he acquired in college, are out of date a decade following this graduation; by the time he has reached the "peak" of his career--say at ages 45-60 years, he may be completely by-passed. The pace of development of relevant knowledge varies widely among different professional pursuits, but in all it is significant and increasingly so.

It now seems clear that most professionals and indeed most single professions are unable to obtain and maintain a mastery over all the technologies and all the knowledge necessary to complete effectiveness in the performance of their activities. This has given rise to a variety of devices whereby such sciences and technologies can be utilized without loss to the profession of its ultimate hegemony in its field. These have included: admission to semi- or full-professional status of some trained in other requisite areas; employment on temporary or consultant bases of specialists; special training courses for selected members of the profession in other fields; attempts at the universities to introduce courses from other fields into the regular professional curricula; and many others. Many such devices have the effect, in some degree, of lessening the self-sufficiency and autonomy of the profession within its traditional boundaries, and of reducing the autonomy--or claims to autonomy--of its individual members to make decisions within that field.

The Pressure for "Upgrading"

In a society so long dedicated to, and with such faith in, the idea of change and progress, it is not surprising that a fundamental facet of the philosophy of occupational communities should be the pressure for change in the direction of betterment for their individual members and prospective members as well as of the communities themselves looked upon as integral units. This, it may be noted, has not always been the case of occupational groups and their organizational expressions. The grandparents of a good many of our present occupational groups, including the professions, were the medieval guilds, which were dedicated not to change but to the maintenance and protection of the *status quo*. In a society so characterized by rapid development, an institution can hardly maintain its relative *status quo* without itself developing. The only way to stand still in a situation where everything else is moving upward is to climb.

Within most of the professions, there seems to be a continuing, restless pressure for what is often somewhat ambiguously referred to as "upgrading." And within many of those occupational fields, there is similarly a pressure for upgrading in the direction of being recognized as a profession. The word is itself a catch-all, carrying a variety of different connotations, but these are seen as related and mutually self-supporting. Most generally, upgrading refers to the standing and esteem in which the occupation is held in society--or at least among persons closely associated with it and this of course applies to the individual practitioners of the occupation. It applies also in some, but not all cases, to the income-commanding power of the profession, its strength in the labor market-place. Indeed, its most literal meaning, in civil service terminology, is reclassification upward to higher-salaried grades. It means the raising of standards of professional education, of entrance, and of performance, and enforcing such standards with increasing strictness. It means, in a scientized society, becoming more and more scientific, rational, and objective. It means attracting better and better recruits into the profession; developing and enforcing codes of ethics; eliminating amateurs; and divorce from politics.

The effects of the ceaseless pressure for upgrading are pervasive, not least in the realm of education for the professions, and some of them will be discussed later. I should like here to mention two tendencies to which upgrading has contributed. One is the development of sub-professions, supporting occupations to perform the essential work which lies below the threshold of full professional caliber. As demands for services in the various professional fields rise, and as the supply of fully accredited professionals is restricted by ever-rising standards and qualifications, others must be found and trained to perform the tasks of lesser difficulty which do not require the high skills and knowledge of the true professional. And soon the sub-professions are on the "upgrading" track themselves, seeking recognition as true professionals. Thus the doctors delegated to the nurses, and the nurses after gaining the standing of a profession, delegated to practical nurses and nursing aides. The engineers and architects have their technicians, surveyors, draftsmen (and others), the accountants their bookkeepers, the lawyers their clerks, the dentists their dental technicians, and the Foreign Service officers the Foreign Service staff.

A second consequence of upgrading--and of related causes--is the generational strain it is putting upon the idea of career, which is itself so central to the idea of profession. A progressive professional career is traditionally associated with the assumption that a person's competence increases as he gains experience--i.e., as he becomes older. But with standards and qualifications constantly rising for the new recruits, the older practitioners become decreasingly qualified unless they take heroic measures to keep up to date. In a rapidly developing professional field, a practitioner may be at the peak of his competence between ages 25 and 35; by the time he reaches 50, he may be totally obsolete. Experience becomes positively disqualifying. This accelerating tendency in many fields is giving rise to rethinking about professional education in relation to experience and the older man, and may well bring about a very substantial shift of emphasis in the future.

Organization and Management

We have noted above that the mushrooming of science and technology is creating growing problems for the established professions, both in absorbing and keeping up with changes central to their own fields and in relating themselves effectively and without loss in status and hegemony with other technologies. Somewhat similar kinds of problems arise from the development of organizations and their employment of professionals. It has already been noted that the vast majority of professionals are so employed, and that the values, orientations, and disciplines associated with bureaucracies may not be congruent with those of the professions. Here I should like to emphasize another facet of the same trend. In government particularly, and probably to an increasing extent in private business, the leadership of administrative organizations is exercised by professional men--i.e., men trained for the kinds of work performed within organizations but not specifically for the management of that work. A recent survey of large businesses revealed that about half of their directors were educated, not in business administration, but in engineering. And we have seen above that a growing proportion of federal, state, and local administrators were professionally trained men in fields other than public or business administration.

Government, Politics, and the Professions

Historically as well as contemporaneously, the professions and governments are interdependent in a great number of ways. Governments are, or were:

- the founders or initial sources of demand for many professions
- the legitimizers of all those which have been legitimized
- protectors of the autonomy, integrity, monopoly, and standards of those which have such protections
- the principal supporters of their research and of that of the sciences upon which they depend
- the subsidizers of much of their education
- among their principal employers and the nearly exclusive employers of some of them; and this means
- among the principal utilizers of their knowledge and skills.

For their part, the professions:

- contribute to government a very substantial proportion of public servants
- provide most of the leadership in a considerable majority of public agencies
- through their educational programs, examinations, accreditation, and licensing, very largely determine what the content of each profession is in terms of knowledge, skills, and work
- influence public policy and the definition of public purpose in those many fields within which they operate
- in varying degree and in different ways provide or control the recruitment, selection and other personnel actions for their members
- shape the structure as well as the social organization of many public agencies.

Furthermore, one of the primary reasons for the organization of a good many professional associations was to exercise influence in the political realm. But usually this pressure was in the direction of removing the profession from the operations of general or open politics and bestowing upon the professional organization itself some of the sovereign powers of the state for its self-regulation. With one or two exceptions--most conspicuously law--there is a built-in aversion between the professions and general (as distinguished from intra-professional) politics. Its origin is historical: most of the professions, and particularly the public service category, won their professional spurs over a good many arduous years to the extent they could escape the infiltration, the domination, and the influence of politicians (who, to most professionals, are by definition amateurs at best and corrupt ones at worst). Compare, for example, the evolution of the military, diplomatic, social welfare, city manager and like fields. The aversion to politics has contemporary supports. Professionalism rests upon specialized knowledge, upon science, and upon rationality. There are correct ways of solving problems and of doing things. Politics is seen as constituting negotiation, elections, votes, compromises--all carried on by subject-matter amateurs. Politics is to the professions as ambiguity to truth, as expediency to rightness, as agnosticism to true belief.

Government as a whole comes off not much better than politics in the eyes of most professions, particularly the "general" ones. In the first place, it carries the political taint by definition. Secondly, it violates or threatens some of the treasured attributes and myths of true professionalism: individual and professional autonomy and freedom from "bureaucratic" control; service to, and fees from, individual clients;

vocational self-government. Among those general professions of whose members large numbers are employed privately, pre-service education usually treats government (insofar as it is mentioned at all) as an outside agency with or against which one must deal. This seems to be true of most (but not all) education in law, engineering, accounting, and some other business fields, upon all of which government is heavily dependent. It is also true of medicine and most of its sub-specialties. Even in many public service professions, there is a considerable aversion to government _in general_ and to politics--which may be another word for the same thing. Government is acceptable in those particular areas in which the specified profession has dominant control; but beyond those perimeters, it is equated with "politics" and "bureaucracy" in their more invidious senses.

The Importance of Higher Education

Over the long pull, the most dominating impact upon the professional public services will be that of the universities--their professional schools, their departments in the physical and social sciences which produce professionals, and their faculties in general. Higher education, particularly in the professional fields, produces the bulk of future professionals. By their images, and by their impressions upon undergraduates, the schools have a great influence upon what kinds of young people--of what quality, what interests, what values--opt for what fields. It is clear too that they influence the choices of students among employers--whether government or other, and which jurisdictions and agencies of government. By their curricula, their faculties, their teaching, they define the content of each different specialism and the expectations and aspirations of the students in each. These students will of course include the principal operators in government tomorrow and the principal leaders day after tomorrow.

In most professional fields, governments have accepted, without much question or knowledge, the academic definition of content and the academic criteria of qualification and merit. Most governments, like other employers, rely upon accreditation: that the graduate has earned his sheepskin in an accredited institution. Accreditation itself is normally based upon a review and approval of a given school's program by a committee of a larger organization composed of, or dominated by, professional educators in the same field. It reflects a consensus among academics in a given field as to the minimal curricular and faculty requirements preparatory for practice in that field. My impression is that in most fields accreditation and high academic standing (grade point average) are more important to governmental employers than professional licenses. Where registration has been provided in only a few states or in none at all--such as social work, or city planning, or librarianship--accreditation and grades become almost the sole criteria. Accreditation is sometimes a requirement for licensing. Where government employers have any significant choice among candidates for jobs in the recognized professions, their reliance is placed upon (1) whether they come from accredited schools, (2) their grade point averages, (3) the recommendations of professors. All three are of course academic determinants.

In the main, governments have yielded to the universities and professional educators the significant influences, the criteria, and the choices about public employment. Few of our larger governmental units give any competitive examinations on substance--i.e., knowledge and skill--for candidates in professional fields. They leave it largely to the universities to determine what knowledges and skills are appropriate and who, among the graduating students, are deserving of appointment. In a few fields, they also rely upon licensing examinations, themselves controlled by practitioners outside of government. And among the agencies dominated by an elite professional corps, personnel decisions are largely dictated by the corps.

It is interesting, in this connection, to note that the Congress as recently as 1944, reaffirmed in the Veterans' Preference Act its long-standing suspicion of formal academic qualifications for civil service jobs:

> No minimum educational requirement will be prescribed in any civil service examination except for such scientific, technical, or professional positions the duties of which the Civil Service Commission decides cannot be performed by a person who does not have such education. (Section 5)

But the Civil Service has since excepted from this caveat about ninety different occupations which comprehend virtually all the established professional fields, a great many emergent professions including some that are exclusive to government, and most of the natural, life, and social scientists. The omissions from the Civil Service exceptions are more conspicuous than the exceptions themselves. Lawyers are of course omitted since they are not under Civil Service anyway. Occupations in administrative fields, such as budgeters, personnel specialists, purchasing officers, tax administrators, accountants, and administrative officers are not excepted. Urban planners, but no other planners, are excepted. None of the fields normally considered among the humanities at universities is excepted; among the social sciences, political science, public administration, and history are conspicuous in not being excepted from the Congressional fiat.

(Anthropologists, economists, psychologists, and sociologists are all excepted.) The normal mode of entrance for those in non-excepted fields is the highly competitive Federal Service Entrance Examination. In the excepted fields, entrance is normally made without written examination. It hinges on a review of the college record, recommendations of professors, and, for higher level positions, experience.

For better or worse--or better and worse--much of our government is now in the hands of professionals (including scientists). And the choice of these professionals, the content of their work and their skills, and their values and aspirations are now principally determined, not by general governmental agencies, but by their own professional elites, professional organizations, and the institutions and faculties of higher education. It is unlikely that the trend toward professionalism in or outside of government will soon be slowed or reversed. But the educational process through which the professionals are produced and later refreshed (in continuing educational programs) can be studied and changed.

II

PROFESSIONAL EDUCATION: ITS DEVELOPMENT AND PROBLEMS

The explosive growth of the professions during the twentieth century and particularly in recent years was of course supported and even made possible by a similarly explosive growth in professional education. The institutions of professional education stand in a pivotal position with respect to the development of professions. On the one hand, they may be viewed as a response to social demands for certain kinds of occupational services and also a response to growing knowledge in fields relevant to those services--knowledge which to a considerable degree they generate themselves. On the other hand, they are shapers of the professions. The very existence of professional training in a new field is a significant symbol of the existence of a new profession. They recruit and select the professionals of the future; they weed out the unfit; they largely determine through their curricular content the depth and breadth of knowledge upon which the profession will be based and, to a varying extent, what the content of professional work will be; they play a key role in the process of socialization of the new professionals--their orientation to the field and to the world in general, their values, standards, ethics; through their research, they contribute to the growth of both knowledge and technique; and they provide the principal linkage between the professions and the academic fields of scholarship and learning, particularly in the natural and social sciences. They provide major inputs to other scientific enterprises in the way of problems and experience and major outlets for new discoveries whereby they can be put to practical use and benefit in the life of mankind.

Each profession has its own unique history, and there is an abundance of studies and reports on the development of education in the various fields.

It is not my intent to review these or to summarize them into a history of professional education.[1] Rather, I shall limit these remarks to a few general observations that seem most relevant to the development of the public service. Many of our current problems grow out of forces and trends and conflicts from the past.

The Antecedents

The recent burgeoning of professional education in this country is in historical terms a sudden development. In comparison with the nations of Western Europe, especially Germany and France, the United States was relatively slow and backward in this regard until the turn of the twentieth century. The early colonial colleges, modeled to some extent upon their British forebears, Oxford and Cambridge, were heavily oriented toward and to some extent dominated by the churches, and their curricula consisted primarily of classics, classical languages, philosophy, and theology. This general pattern of emphasis persisted for the most part until after the Civil War and it was multiplied during early and mid-nineteenth century by the tremendous increase in small, private, often denominational colleges. At the beginning, the American colonies relied almost exclusively upon immigrant professionals, educated in the old country--then principally the clergy, law, and medicine. Later American young men from the upper classes went to Europe for their professional education in law and medicine. This practice continued into the nineteenth century. Thus, seventeen per cent of the professionals appointed to executive positions by Thomas Jefferson were educated in Europe, principally in Britain, Scotland, and France.[2] Later in the century substantial numbers of Americans went to Germany for training in technical and scientific fields.

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[1] For histories in the major professional fields as well as summary statements, see Lloyd E. Blauch, ed., Education for the Professions (Washington: U.S. Government Printing Office, 1955); and Nelson B. Henry, ed., Education for the Professions, The Sixty-First Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1962).

The domestic production of professionals began with apprenticeship--young men working under the immediate guidance of accomplished practitioners for periods of years. Later, in the late eighteenth and the nineteenth centuries, to the apprentice system was added the proprietary professional school, sometimes an outgrowth of clusterings of apprentices (such as the Litchfield Law School in Connecticut) with increasingly formalized and didactic instruction. Professional education under the apprentice system was low-level and even primitive according to modern standards. There was little association with science, with systematic knowledge above the vocational and day-to-day experience standard. And the standards of the proprietary schools in most fields were not much higher. The egalitarian ideology associated with Andrew Jackson and his followers provided a hostile climate for specialized education for the professions. (Jackson himself, virtually uneducated, won his political spurs as a lawyer and prosecuting attorney; on the other hand, he warmly advocated college education for young men.)[3] But the main points about apprenticeship and proprietary school training for the professions during the eighteenth and nineteenth centuries are: (1) their orientation was essentially vocational, and their quality, in terms of depth of knowledge, was low; (2) with a few notable exceptions, they were not based upon, or even associated with, science or its advancement; (3) they were outside the mainstream of higher education in the nation, most of which was classical and humanistic and disdainful both of science and of vocational education.

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[2] Sidney H. Aronson, _Status and Kinship in the Higher Civil Service_ (Cambridge: Harvard University Press, 1964), p. 131.

[3] _Ibid._, pp. 138-39.

The last point above--the separation of professional training from the mainstream of higher education--deserves some emphasis, for it was the source of some of the principal problems of professional education today. Until well after the Civil War, the vast majority of American colleges resisted with the utmost stubbornness the intrusion of vocational, or otherwise "useful" subject matter in their curricula. Their mission was to produce moral and cultured gentlemen and ladies, well grounded in the classics and philosophy. Representative statements of purpose, drawn from college catalogues _circa_ 1875, were:[4]

> "The aim has been to so combine the classics, sciences, and elements of learning as to bring out in natural order and in harmonious proportions, the different faculties of the mind, and to so care for the moral and physical culture of the students as to secure symmetrical character." (Cornell College)
>
> "The object of the Institution being to afford literary, moral and religious instruction to its students, and to inculcate habits of punctuality and self-control. . . ." (Earlham College)

The inhospitable attitudes of the colleges forced the development of vocationally oriented training programs in special, proprietary schools, not generally esteemed as educational institutions, and in operating professional organizations themselves--law offices, hospitals, libraries, etc.

The separate development of professional education was for many years a favorite target of educational critics and reformers. Woodrow Wilson, in 1893, referred to it as "an acute symptom of the disease of specialization by which we are now so sorely afflicted. . . . Knowledge must be kept together. . . . The Liberal education that our professional men get must not only be antecedent to their technical training; it must also be concurrent with it."[5] Alfred North Whitehead in 1929 wrote that: "The solution which I am urging, is to eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum. There is only one subject-matter for education, and that is Life in all its manifestations."[6] The unification of vocational and general education was a central theme of the leaders of the progressive education movement. "Of all the dualisms [John] Dewey attacked, none was more crucial to his view of progressivism than the ancient divorce between culture and vocation."[7] Though Dewey and most of his fellow progressivists were directing most of their attention to elementary and secondary education, the argument could be, and to some extent was, applied to higher education. As late as 1958, McGrath and Russell stated that: "The divorce of liberal and professional education has been an immense educational and social blunder. The separation has damaged both."[8] The development of American universities over the past century--and, indeed of the colleges themselves--has witnessed the return of professional education toward the mainstream of higher education, but the return has been neither complete nor wholly comfortable and friendly. And this use of the word "return" is perhaps a little stretched. The departure had occurred two to three centuries earlier, but it may be recalled that the medieval universities in Europe, including Great Britain, were primarily professional schools for the only professions which then existed--the clergy, law, medicine, and to some extent, the higher civil service.

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[4] Both quotations derived from Earl J. McGrath and Charles H. Russell, _Are Liberal Arts Colleges Becoming Professional Schools?_ (New York: Teachers College, Columbia University, 1958), p. 4.

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[5] "Should an Antecedent Liberal Education be Required of Students in Law, Medicine, and Theology?" in National Education Society of the United States, Proceedings of the International Congress of Education (New York: 1893), pp. 116-117.

[6] The Aims of Education and Other Essays (New York: The Macmillan Company), p. 10.

[7] Lawrence A. Cremin, The Transformation of the School, Progressivism in American Education, 1876-1957 (New York: Vintage Books, 1964), p. 124.

[8] Ibid., p. 15.

Three major developments in the second half of the nineteenth century had fundamental influence on the subsequent development of professional education in the United States. One was the passage of the Morrill Act in the midst of the Civil War which provided impetus for a host of land grant state universities, dedicated in part or in *toto* to education in "agriculture and the mechanic arts." The Morrill Act gave expression to the ethos of the nation: equality of opportunity so that most who qualified could gain higher education; faith in knowledge, rationality, and research to solve the problems of society; emphasis upon practicality--the study and teaching of subjects which would be helpful in carrying out tasks in agriculture and industry; and a heavy orientation to economic considerations in the subject matter of education. The Morrill Act and the federal and state actions which followed it gave emphasis to the vocational aspects of higher education; they thus opposed the tendencies to that date,which were quite plainly anti-vocational in their main emphases. They contributed little immediately to the development of science in the universities except at a rather superficial and applied level. But over time, they provided institutional bases for scientific development and *nexi* between the sciences and professional occupations. The Morrill Act and the subsequent developments for which it was the fuse were sui generis American for American education, for American politics and government, and for American society.

The second major influence on American professional education in the latter part of the nineteenth century derived from the European, principally German, emphasis upon science and research and the development of the German universities as institutions for the pursuit and dissemination of knowledge, free of ideological, religious, or political bias and influence. Substantial numbers of American scholars studied in Germany during the middle and later nineteenth century, and they returned with elevated and different standards of knowledge in the various fields of learning, particularly in science. The effects of German influence on American higher education were quite different from those of the Morrill Act. They included the emergence of science and research in the higher education scene; the reawakening of scholarships; the Ph.D. degree, first at Yale (in 1860), later and more importantly at Johns Hopkins (beginning in 1876), which was to become the "union card" for the profession of college-level teaching. They also included profound institutional changes: a tremendous proliferation of subject matter fields and courses; the development of the American style of "university," being a mix, which is not fully digested to this day, of the older American patterns of general education of the colleges, the vocational orientation of the land grant schools and the emphasis from Germany upon science and research. They further included profound changes in teaching method--the elective system, the seminar, the lecture, the laboratory and the emphasis on research.

A third major influence on higher and professional education was the development, in the latter part of the nineteenth century, of the high school, especially the public high school. Earlier, the bulk of college students entered with little more than an elementary school preparation. Many of the colleges established their own academies to provide at least basic preparatory instruction for college entrance, and it is probable that a good part of the materials taught in the colleges, especially the land grant institutions, were at a level we would today expect to be handled in the high schools. The early high school curricula varied from one to four years, and most high schools were considered essentially as college preparatory; they were not terminal programs. "In 1870, for example, eight out of ten high school graduates entered college, where six of them received degrees; there were more than twice as many college graduates in the country as there were people with high school diplomas only."[9] In the years following 1880, the four-year high school grew at geometric rates. By 1920, the number of high school graduates who went on to college fell to about 25 per cent. In short, high school graduation had become terminal for the majority of students. But at the same time, the educational attainment of those who did proceed to college was greatly improved. And this made possible the elevation of the level of college instruction. To a very substantial degree, the rapid growth in the depth and the extent and the numbers that has occurred in higher education since about 1880 has been made possible by the emergence of the high school.

The Twentieth Century: Professional Education Comes of Age

With the growing support of the high schools, and under the not altogether parallel stimuli of scientism, *a la* the German universities, and vocationalism, a la the Morrill Act, professional education burgeoned and assumed its present shape during the first decades of this century. For the most part, this shape was the semi-independent professional school on a university campus. But this development reflected--and it also conditioned--some very much larger trends in American society and culture. This was the era of progressivism in politics and of the parallel movement in the field of education also described by the word progressive. It witnessed the blossoming of faith in rationality, applied science, and progress. Then was the first vision of the Great Society. Scientific management flourished in industry and government as did conservationism and a variety of new applied sciences in agriculture and on the countryside.

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[9] Grant Venn, *Man, Education and Work: Postsecondary Vocational and Technical Education*, American Council on Education (Washington, D.C.: 1964), p. 46.

Under the onslaught of social optimism and rationality, the bastions of traditionalism, the educational institutions, had to yield some ground, though they did not do so without stubborn opposition. Vocationalism penetrated not alone the universities but also the traditional liberal arts colleges and even the public schools. The Smith-Hughes Act of 1917 finally brought Federal aid for vocational training below the college level, a full half century after the Morrill Act had brought it to the universities. Professional and pre-professional education programs began to appear in the curricula of even the most conservative four-year liberal arts colleges, a movement which has continued to this day.[10] The general view that the educational system should aim toward the preparation of our young people for their working lives as well as, or instead of, preparing them for a cultured life, took hold at all levels. The acceptance of professional training on college and university campuses--even without their complete absorption--was spotty, sporadic, often reluctant. But it was inexorable and resulted in a situation in which the bulk of higher education, undergraduate and graduate, was in fact directed to the preparation of young people for working careers. That is, higher education became professional. The early drive toward identifying education and its institutions with work and with current social problems was in some places more spectacular than it is today. In 1899, the University of Chicago, then only six years old, established a college of commerce and politics to deal, among other things, with "the principal economic, social and political problems which confront the leading nations of the world."[11] And Chicago, of all places, engaged Dr. Edmund J. James as Professor of Public Administration, the first such title, to my knowledge, in the history of the United States. During the same period, the University of Wisconsin inaugurated its program of total service to the State and to society. Its President, Charles Van Hise declared in 1905: "I shall never be content until the beneficent influence of the University reaches every family in the state. This is my ideal of a state university."[12] And Wisconsin blazed new trails in its extension program in agricultural and urban affairs, its various programs of social reform, its support of trade unionism, and its institutional economics. During the same decade, the first of this century, the most venerable educational institution in the country, Harvard, was debating a proposal for a professional school to train diplomats and civil servants. The discussions resulted eventually, in 1910, in the Harvard

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[10] McGrath and Russell in 1958 wrote that "barely a handful of colleges" have escaped such a change, and they cite St. Johns College in Maryland as the outstanding exception. op. cit., p. 12.

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[11] Edmund J. James, "Commercial Education," thirteenth of the Monographs on Education in the United States, ed. by Nicholas Murray Butler, Louisiana Purchase Exposition Company, J. B. Lyon Co. (Albany, N.Y.: 1899), pp. 40-41.

[12] Cremin, op. cit., p. 165.

School of Business, the change in focus resulting primarily because of doubts of career possibilities in the diplomatic and civil services.[13]

The invasion of professional education upon university campuses began in earnest at about the same time--that is, about 1900. As late as 1895, Nicholas Murray Butler wrote that the only two professional schools of "university rank" in the United States were Harvard in law and Johns Hopkins in medicine.[14] But the groundwork for profound changes was being laid through the development of sciences, both physical and social, which would provide a more systematic foundation of knowledge for the existing professions--then mainly medicine and law--as well as a basis for professionalizing a number of vocations that previously had little claim to professional status. The late nineteenth and early twentieth centuries--until about World War I--witnessed rapid change and development of professional education toward the patterns that continue to exist today. Among the significant developments were:

1. the accelerated growth of professional schools on university campuses where they were to some degree associated with the arts and sciences and, with it, the gradual elimination of reliance upon apprenticeship and proprietary schools. Apprenticeship training was built in to professional preparation in some fields, but only after or in association with academic instruction. Virtually all basic professional education in most fields is now carried on at universities, and most of it requires work at least to the level of the bachelor's degree;

2. the birth of a number of professions, and their spawning ground was the university campus. As Frederick Rudolph has written: "The flowering American university took what were vocations and turned them into

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[13] Frank C. Pierson and others, The Education of American Businessmen (New York: McGraw Hill Book Co., Inc., 1959), p. 38.

[14] In his introduction to the American version of Friedrich Paulsen, German Universities: Their Character and Historical Development (New York, Macmillan Co.: 1895), p. xxv.

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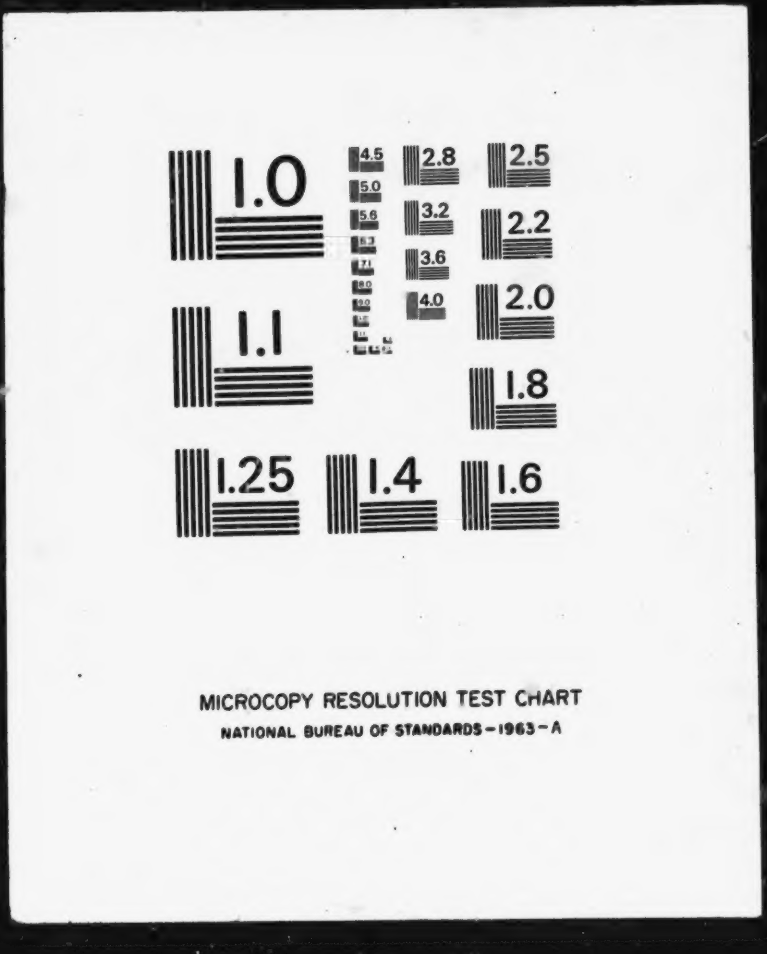
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

professions; the old distinctions would be lost in the process."[15] Although in some cases there had been earlier university initiative, a large number of professions really came of age between 1900 and 1922. They included:

accounting,	though begun as a university-level discipline at the Wharton School in 1881; the number of university curricula in accounting grew from 7 in 1900 to 135 in 1921;
forestry,	begun at Cornell in 1898 and Yale in 1900, there were by 1914 24 schools of forestry;
journalism,	though four universities offered professional programs in journalism before 1900, the first School of Journalism was established in 1908 at the University of Missouri;
nursing,	previously taught almost entirely by schools operated by hospitals, courses leading to the baccalaureate degree were introduced by 1916 in a small number of colleges and universities;
optometry,	previously taught almost entirely at private training clinics, the first university program was opened at Columbia in 1910;
public health,	begun earlier in courses in medical schools, comprehensive programs began circa 1910;
social work,	systematic training began during the first years of this century at some privately organized schools, some of which were associated with a university;
teaching,	earlier confined to normal schools below the college level, after 1900 high-school diplomas began to be required; later many of them became degree-granting teacher's colleges, and still later, full-fledged general colleges.

3. the reform and upgrading of standards of professional education in the older fields as well as the newer ones. Most spectacular were the tremendous changes and improvements in medical education growing out of the famous study by Abraham Flexner in 1910.[16] But similar efforts were proceeding on various fronts in law and engineering. In fact, all the professions gave increasing emphasis to the problems of raising standards in general and eliminating or at least substantially reducing the numbers qualifying for professional practice who could not meet the minimum level of qualification--a level which tended to rise. The devices for raising educational

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[15] The American College and University: A History (New York: Random House, 1962), p. 343.

[16] Medical Education in the United States and Canada, A Report to the Carnegie Foundation for the Advancement of Teaching (Bulletin No. 4).

standards were many: curricular revision and increasing the length of educational programs; increasing incorporation of scientific subjects, offered by regular university departments, into professional curricula; raising the qualifications of professors; developing advanced degrees up to the Ph.D. in some fields to improve teaching and encourage research; requiring ever stiffening examinations for professional licenses; the development of accreditation procedures for professional schools; and organizing associations on professional education in the various fields.

These three trends--the development of professional schools on University campuses, the upgrading of vocations to professions, and the raising of professional standards have continued to this day, though somewhat sporadically and unevenly. The twenties and thirties witnessed the development to professional or near professional status of a number of the public service professions, usually through or accompanied by, the development of specialized educational programs at universities--social work, city management, city planning, diplomacy. The fifties and sixties were marked by the tremendous growth of knowledge and discovery in the sciences, particularly the physical ones, and a mushrooming demand for applied scientists and other professionals whose activities are based on scientific knowledge and methodology. So there has been a new spurt in new professions in the scientific fields and of increasing scientific substance in the older fields.

The Public Service Professions. The development of education for the professions employed predominantly or exclusively by governments has followed somewhat distinctive courses. One may identify four principal patterns. In a few specialized fields for which there was clearly no relevant educational preparation in established institutions and over which the public agency desired direct control, the agency has established a government institution in-house. The best known examples of this are the military academies. West Point, established in 1802 by the War Department primarily for training in engineering, was probably the first professional school in the nation outside the ancient professions of law, medicine, and the ministry. Forty-three years later, the Navy emulated the Army at Annapolis. Following the establishment of the independent Air Force in 1947, one of its first undertakings was the inauguration of its Academy at Colorado Springs, planning for which had been underway for some years prior to the separation of the Air Force. The separate academy had become, not alone a tool for professional training and orientation, but also an essential symbol of professional status. Each of the services, as well as the Defense Department as a whole, has developed a large number of in-service schools for officer training at various stages of career development. There are a few examples of non-military in-house educational institutions--the Coast Guard Academy, the Foreign Service Institute, and a great variety of special in-service training programs which are intended to contribute to professional competence. In some fields, substantial numbers of the professionals are in fact trained within governmental facilities. Thus, the majority of psychiatrists today are trained in mental hospitals (following a regular medical education). The same applies to many nurses and social workers. In the main, however, and outside of the military field, American governments have tended to turn to outside sources for the professional training of their recruits.

A second pattern was to encourage, persuade, and otherwise induce outside institutions, usually the universities, to set up programs responsive to governmental needs, or to modify existing programs. The inducements sometimes included financial grants, donation of qualified governmental personnel as teachers, assistance in providing teaching material, fellowships to students in particular fields, and assurances of governmental employment of graduates. Illustrations of various ingenious devices abound in a great many fields in recent years--doctors and other specialists for the military services, scientific programs of a variety of kinds, NDEA fellowships, area programs at some institutions, etc. The development of the various fields grouped under the rubric "agricultural science" was one of the products of the Morrill Act and the land-grant colleges. The profession of forestry received its greatest initial boost in consequence of Gifford Pinchot's persuasion of Yale University to set up a forestry school (with the added inducement of a substantial bequest from Pinchot's father). In the last two decades, research grants and contracts to professional schools and scientific fields have had the indirect effect of producing new specialties and new specialists some or most of whom will later be employed by government.

A third device has been training contracts with institutions, usually universities or under the widening canopy of universities, to prepare persons for new kinds of tasks for which qualified specialists are not available on the labor market. Contractual arrangements have usually been used to develop new specialties or cross-specialties within established fields or crossing the boundaries of different fields, often for experienced personnel within agencies. Examples are abundant, especially in recent years in the sciences, in the health fields, in a great many aspects of military administration. A current example is the contracts made by the federal government with several universities in 1966 for year-long training courses to develop qualified staff for the Planning-Programming-Budgeting System (PPBS), which may well produce a new kind of profession for public management.

Finally, I would mention those public service professions which were developed outside the government by citizens and educators of vision and initiative who saw a governmental need, were acquainted with the resources of knowledge and method applicable to it, and were convinced that it was or could be made teachable. The initiative as well as the resources for developing education for a number of professions and specialties have come from outside the government. Among them might be included city planning, city management, and in a sense the entire field of public administration together with many of its sub-fields.

It appears that, at least until quite recently and in a few of the more esoteric scientific fields, education for the public service professions has traveled a rockier and slower road than that traversed by the general professions. Despite the early pleadings of Washington and Jefferson for a national university, there has always been reluctance to establish central, national educational facilities, even where confined to specific specialized fields (except for the military professions). As late as 1962, President Kennedy feared that a proposal for a national foreign affairs college would draw down on his head the wrath of all the university and college presidents in the United States. The state universities and the legislatures which provide their funds have long been most responsive to the demands of private groups which commanded some electoral support, and therefore those fields which were quite directly and visibly related to interests outside government itself. Those fields whose development could claim clear-cut benefit to important sectors of the public--such as education and agriculture in mid-nineteenth century--fared somewhat better. But for most, professional education lagged behind both the need, usually perceived at least by some, and the knowledge and technique. Very probably, this remains the case today. The popular and the educational bias against what I have designated public service professions is reflected in the fact that few of them are generally recognized as professions at all and that there exists so obvious a need to professionalize--and educate for--some that now have only limited claim to professional status, such as property assessment, police, pollution control, and many others.

The relative unresponsiveness to educational needs that are specifically governmental has compelled government agencies to rely heavily upon experience gained on the job, supplemented to a rather limited extent by formal in-service training. In the majority of cases, this experiential development is built upon an educational foundation of a bachelor's degree or higher in some field which appears to be, and hopefully is, a relevant basis for the type of work involved. This is why so many of the public service professions fall into the group I have labeled "emergent."

The Growth of Professional Education. The rapid growth of the professions, described in Chapter I, was of course supported and made possible by the accompanying growth in professional education. It has been part and parcel of the mushrooming of higher education in the United States, particularly in the last twenty years. But the full impact of professionalism is not completely reflected in the growth in the professional schools. To an increasing degree, undergraduates as well as graduate students in liberal arts are majoring in subjects intended to prepare them for professional careers--that is, their schooling is in some degree vocationally oriented. This is probably largely true of those in the natural and biological sciences, substantially true of those in social sciences, and even partly true of those in the humanities. Since the turn of the century, in the liberal arts fields there has been a very rapid increase of students, faculties, and courses in the social and physical sciences, a relative decline in the humanities such as English, foreign languages, philosophy, religion, and fine arts--staples of the classical liberal arts college. At the graduate level, it is very probable that most students are "professional" whatever their field, in the sense that they are preparing themselves for a career, even if it be teaching or research.

The statistical data greatly understate the vocational orientation because so very many persons preparing themselves for teaching in elementary and secondary schools are today majoring in subject-matter fields other than education. This is a recent trend in the educational field which is growing rapidly, and its influence can be estimated only roughly. Thus, in 1966, about 201,000 college students completed their certificate requirements for teaching; of these 125,000 qualified in specific subjects--other than education itself--in college.[17] This was just about double the number of bachelor's and first professional degrees estimated in the field of education for that year.[18] Very substantial proportions of those gaining degrees were apparently preparing themselves for teaching, particularly in the more traditional liberal arts fields. Thus, the teaching certificates in English were about half all those who graduated in English; the certificates in art, industrial arts, music, and speech were near two-thirds the graduates in fine arts; the certificates in foreign languages were nearly half the first degrees in foreign languages; and the certificates in social sciences were about one-quarter the first degrees in social sciences. The relationship between bachelor's degrees and teaching certificates is cloudy, partly because some do not gain their certificates until they reach the Master's degree level. But it is clear that very substantial numbers of college students in the most traditional liberal arts subjects are preparing themselves for careers of teaching.

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[17] As reported by the Research Division of the National Education Association in the NEA Research Bulletin, V. 44, No. 4 (Dec., 1966), p. 118.

[18] By the Department of Health, Education and Welfare, Office of Education, in the Projections of Educational Statistics to 1974-75 (Washington: U.S. Superintendent of Documents, 1965), p. 22.

Thus, the onslaught of professional education on the universities has been a product of the burgeoning, avowedly professional schools and also of vocationalism in the traditional academic disciplines. The vigor of the onslaught is reflected in the percentages below of the resident degree-credit students of age 18-21 years and 18-24 years to the population of those ages:[19]

Year Ending:	Percentages of Resident Degree-Credit Students to Population	
	18-21	18-24
1870	1.7	1.1
1880	2.7	1.6
1890	3.0	1.8
1900	4.0	2.3
1910	5.1	2.9
1920	8.1	4.7
1930	12.4	7.2
1940	15.6	9.1
1950	29.6	17.0
1960*	34.9	20.5
1962*	36.4	22.0
1963*	38.1	23.3

*First term enrollment only.

In 1963, nearly two out of five of our young people between 18 and 21 years were in college, and nearly one in four of those between 18 and 24 was in college. Between 1900 and today, the proportions of both age groups shown above who were degree students in higher education increased by nearly ten times.

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[19] Drawn from U.S. Department of Health, Education and Welfare, Office of Education, Digest of Educational Statistics (Washington: U.S. Superintendent of Documents, 1965).

This extraordinary growth may be emphasized by comparison with higher education in some of the other "developed" nations of the world. According to the Robbins Report on Higher Education in Great Britain,[20] the United States stood substantially higher than any other in the proportion of students and graduates to population of normal entering age, usually by more than two to one:

	Percentage of Age Group Entering Higher Education 1958-9, Full-Time Courses Only Courses of British		Percentage of Age Group Completing Higher Education
	Degree Level	All Levels	All Levels
France	7	9	5
Germany	4	7	4
Great Britain	4.5	7.7	9.8
Netherlands	3	6	4
Sweden	10	12	7
U.S.A.	20 (Junior year)	30	17
U.S.S.R.	5	5	7

The available statistical record on professional education in the United States leaves a good deal to be desired and presents a good deal to be doubted. According to the report of the Commissioner of Education for 1890, there were then 30,000 enrolled in professional schools (presumably some, most or all were not associated with colleges and universities), 15,600 enrolled in professional departments in colleges and universities, and a total enrollment at all institutions of 154,000. Professional enrollments were thus something less than one-third of total enrollments above high school. By 1965, enrollments at institutions of higher learning exceeded five million, but I have not found any breakdown between professional and non-professional programs. However, an indication of the shift in emphasis is indicated by the degrees conferred in recent years. In 1963-64, of a total of 461,000 first degrees conferred (in most cases, the four-year bachelor's) 260,000, 57 per cent, were first professional degrees in avowedly professional programs, i.e., programs normally governed by separate, semi-autonomous departments, schools or colleges, outside the liberal arts curricula.[21]

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[20] Report of the Committee appointed by the Prime Minister under the Chairmanship of Lord Robbins, Her Majesty's Stationery Office (London: 1963), pp. 42, 44.

Over the past century, the greater part of the tremendous growth in higher education has been in clearly professional fields. The swing has been from one-third or less (and perhaps very considerably less, depending upon one's interpretation of the cloudy figures of the Commissioner of Education) to very nearly two-thirds. The rapidity of the growth, and the relationship between professional and non-professional educational programs have fluctuated widely. Two principal factors, both exogenous to higher education itself, have been war and the business cycle. Wars have occasioned deep dips in higher education in general, especially pronounced in those fields such as engineering and law in which men predominate. But the wartime dips have been partially compensated in fields in which women are significant participants--such as education, nursing, librarianship, social work, and to a lesser degree, the humanities. Following the wars, there has been a tremendous upsurge in higher education, accentuated in those fields in which men predominate, such as engineering and the sciences. This was most marked following World War II, accentuated by the GI Bill, and somewhat less so following the Korean War. There is some indication (though I am still searching the data to confirm it) that, during periods of prosperity and relative affluence, general, non-vocational education grows more rapidly than professional education, as in the twenties and the current decade of the sixties. Conversely, professional, vocationally oriented training gains relatively during periods of depression and limited employment.

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[21] Department of Health, Education and Welfare, Office of Education, Earned Degrees Conferred 1963-64 (Washington: Superintendent of Documents, 1965).

Over-all the recent trend has been plain. There was a tremendous boom in higher education in all fields following World War II which reached its peak in 1950. This was followed by a rather sharp drop during the Korean period. Since then there has been a steady and persistent increase, most pronounced in the natural and social sciences and a few of the professions. (See Figure I).

Figure I

Recent and Projected Growth of Earned Degrees*

	Earned Degrees (Thousands)			Percentage Growth	
	1955-56	1965-66 (Est.)	1975-76 (Est.)	1955-56 to 1965-66	1965-66 to 1975-76
Bachelor's and First Professional	311	540	938	74	74
Masters	59	126	235	114	87
Doctors	9	18	37	100	106
All Degrees	379	684	1210	81	77

* Based upon Projections of Educational Statistics to 1975-76, U.S. Department of Health, Education and Welfare, Office of Education, 1966, Table XVII.

The greater part of higher education today is clearly professional, and more than half is in schools and colleges which are avowedly professional in character and purpose. Fewer than one-third of all bachelor's degrees are granted to majors in the humanities and social sciences, and, as indicated above, a good many of these are aimed toward professional practice. At the level of master's degrees, the social sciences and humanities account for one-fifth, and at the doctor's level, a little more than one-quarter. In contrast, degrees of professional schools or in the natural sciences comprise, at the bachelor's or first professional level, 70 per cent; at the master's level, 80 per cent; and at the doctoral level 73 per cent.

Curiously, the proportion of degrees in avowedly professional fields to all graduates has been declining for the last decade, except at the doctoral level, and the Office of Education predicts a continuing relative decline. (See Figure II.) This reflects a more rapid rise in both the natural and social sciences as well as a rise in the humanities. Very probably, a good part of the shift results from the changing emphasis of teacher-training from education as a profession to subject matter fields. It probably also reflects the probability noted earlier that during periods of prosperity increasing numbers of students aspire to programs of general education rather than professional education. Most of all, I surmise, it reflects a swing to the sciences, physical and social, both construed by many students as suitable diving platforms for professional careers. Though there may be some decline, relatively, in the numerical dominance of the professional schools, I doubt a drop in the professional (or, in lower case, vocational) aspirations of college and university students.

There has, however, been wide disparity in the recent and probably future development among different professional fields. Some have grown and are growing tremendously; some are growing modestly; a few have not grown at all or are actually declining. (See Figure III.) The hard sciences,

Figure II

Proportions of Degrees in Major Educational Groupings,
1955-6, 1965-6 (est.) and 1975-6 (est.)*

	1955-56	1965-66	1975-76
Bachelors and 1st Professional		Percentages**	
Professions	67.1	56.7	44.8
Nat. Sciences	9.7	12.5	16.9
Soc. Sciences	14.4	18.8	22.8
Humanities	8.8	12.0	15.5
Totals	100.0	100.0	100.0
Masters (Except 1st Professional)			
Professions	76.8	66.4	56.8
Nat. Sciences	7.7	12.9	17.3
Soc. Sciences	9.2	12.2	14.8
Humanities	6.3	8.5	11.1
Totals	100.0	100.0	100.0
Doctors (Except 1st Professional)			
Professions	34.1	37.2	38.4
Nat. Sciences	35.3	34.9	30.9
Soc. Sciences	21.2	18.6	22.4
Humanities	9.4	9.3	8.3
Totals	100.0	100.0	100.0

*Based upon _Projections of Educational Statistics to 1975-76_, U.S. Department of Health, Education, and Welfare, Office of Education, 1966. I have grouped the categories as follows:

> _Professions_: Engineering, Agriculture and Forestry, Health Professions (dentistry, medicine, osteopathy, nursing, optometry, pharmacy, public health, veterinary medicine, and others), Fine Arts (architecture, music, speech and drama, and others), Education, Library Sciences, Social Work, Business, Home Economics, Law, Military, Naval, Theology, and others.
> _Natural Sciences_: Mathematics and Statistics, Physical Sciences, Biological Sciences, and Science, General Program.
> _Social Sciences_: Psychology, Anthropology, Economics, Geography, History, International Relations, Political Science, Public Administration, Sociology, and others.
> _Humanities_: English, Journalism, Foreign Languages, Philosophy, and Religion.

Figure II (Continued)

Some of these groupings are clearly inaccurate. They are forced by the classifications of the data. It is hoped that the errors roughly balance one another. Thus, the inclusion of art, music and home economics in the professions is a bit doubtful, especially at the bachelor's level. On the other hand, the inclusion of journalism in the humanities and all of psychology, economics, and public administration in the social sciences, distinct from the professions is equally questionable. And clearly a very large proportion of students in all the natural sciences are in fact undergoing professional preparation.

** The totals may not equal one hundred due to rounding.

Figure III*

Earned First Degrees
Recent Growth of Selected Academic and Professional Fields, 1952-53 and 1962-63

	Numbers of Earned Degrees		
Rates of Growth	1952-53	1962-63	% Growth
Rapidly Developing (100% or more)			
Library Science	607	2,351	287.0
Mathematics	4,396	15,923	263.9
Social Work	919	3,075	234.6
Physics	2,005	4,785	138.7
Moderately Growing (20%-99%)			
Biological Sciences	9,707	19,218	98.0
Accounting	7,371	11,869	61.0
Nursing	4,371	6,526	49.3
Chemistry	5,943	8,822	48.4
Forestry	1,026	1,476	43.9
Public Administration	309	433	40.1
Engineering	24,189	33,458	38.3
Education	61,520	83,165	35.2
Military Sciences	1,666	2,199	32.0
Business and Commerce	33,335	41,815	25.5
Stable or Declining (19% or less)			
Dentistry	2,935	3,191	8.7
Medicine	6,686	7,278	8.1
Pharmacy	4,100	4,162	1.5
Architecture	2,045	2,028	-.83
Veterinary Science	878	823	-6.3
Law	11,329	10,181	-10.1
Public Health (doctors)	220	182	-20.9
Agriculture	7,799	4,587	-41.2
Total, All First Professional Degrees	194,699	269,498	38.4
Total, All Other Bachelor's Degrees	110,158	181,194	64.5
Total, All Fields	304,857	450,692	47.8

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* Based upon Earned Degrees Conferred 1962-1963, U.S. Department of Health, Education and Welfare, U.S. Government Printing Office, 1965.

including especially mathematics, have been growing enormously. At the other end of the scale, some of the traditional fields, such as medicine, law, dentistry, and architecture have been relatively stable, and a few--pharmacy, agriculture, optometry have declined.

One further observation about the development of professional education is that increasingly the costs are being met through public, as distinct from private, institutions, and even where conducted in the latter, are increasingly subsidized, directly or indirectly, through public funds. This has been especially true in some fields--such as forestry, social work, teaching, nursing--where the state universities were hospitable to new types of undertakings and responsive to demands and influence in the political arena. More recently, the trend toward public support has been accentuated by the tremendous increases in enrollments, which private institutions are simply unable to meet, and by the rapid growth in costs per student, especially in medicine and other health professions, engineering, and the physical sciences. Increasingly, the preparation of professionals is a governmental responsibility.

In short, higher education is one of the greatest growth industries in the United States today; and it is one upon which most of the other growth industries are dependent. In material or quantitative terms, professional education has become the largest part of higher education, whether measured in terms of numbers of faculty, numbers of students, numbers of dollars. It is surprising that, in all the recent disturbances in and studies about higher education, there has been so little concern about professional education, so much about the arts, other humanities, and social sciences. To a major extent, our society and particularly our governmental institutions will depend upon the professional schools and the scientific departments which produce professionals--upon the kinds of students who enter professional programs and the kinds of training and orientation they receive. Yet these topics seem to have received relatively little attention by those who would reform higher education.

Underlying Problems of Professional Education

The evolution of professional education in universities, which has been summarized in the foregoing paragraphs, has given rise to a number of problems which appear to be common and generalizable among all the fields. The chapters which follow are in fact addressed primarily to problems. Here I should like to point up some of the broader problems which underlie those of curricula, students, and faculty.

First, I would remind the reader of the general problems of the professions themselves which were discussed in Chapter I. Among them the following have particular relevance to the problems of professional education:

intra-professional fission--to what extent and at what stage should sub-specialization be recognized or encouraged in the educational process?

professional boundaries and the spillover of problems--to what extent should professional education invade the zones beyond the traditional boundaries of the profession? More broadly, how should educators define the content of the profession?

obsolescence--how should professional educators cope with the accelerating growth of knowledge relevant to the individual professions? How should it be accommodated in the pre-career programs? How much emphasis should be given to continuing education?

organization and management--to what extent and at what stage should professional education recognize and prepare students for managerial responsibilities which a great many of them will subsequently assume?

To these, I would add four types of problems that are more specific to the educational process itself.

First is the triangular argument as to the relative emphasis which should be placed upon *the vocational, the scientific, and the liberal arts* (or general education) subject matter. The problem besets not alone the professional schools but universities and even liberal arts colleges as a whole, and it goes well back into the nineteenth century when Morrill Act vocationalism and German University scientism first began their encroachment upon traditional humanism. The professional schools are focal to the university-wide problem, since, by history and very nearly by definition, they epitomize vocationalism, planted in the midst of what some like to think of as a community of scholars. Further, each professional school must face the problem within its own confines. The principal justification for their being on the campuses at all is to take advantage of relevant sciences[22] and, to a lesser extent, of the general liberal arts that are already there. Over the long pull, the pressure and consequent movement toward science and away from pure vocationalism seems to have been substantial in almost every field and is probably accelerating. It derives from the knowledge explosion itself, the demands of the booming industry of research and development, and the interests of many faculty members, particularly the younger ones who were themselves trained in science. It is widely resisted in a good many fields by the practitioners, especially the older ones, who complain that the schools are turning out researchers rather than practitioners and that the graduates must then go through what amounts to an apprentice program to learn the real substance of professional practice. And, as will be noted later, the practitioners are not without weapons to combat the tendency toward scientism and to discipline the schools.

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[22] For example, a principal reason for the bringing of medical schools to the campuses has long been, and continues to be, proximity to the sciences. I am told that a standard set by certain medical educators in California is that the school should not be removed from relevant scientific laboratories by more than seven minutes.

In the contest among vocationalism, science, and general education, my impression is that the last-named has run a rather weak third in most of the four-year undergraduate programs. Its principal proponents are the educators themselves, including some in the professional schools. The argument for increasing the general education content of professional programs has scattered support among practitioners and hiring organizations, and in some fields such support appears to be growing. Several recent studies of education for different individual professions have included recommendations for augmenting the offerings in social sciences and the humanities.[23]

A second educational problem is the ambivalent stance and relationships of the professional schools at the universities. It arises from the historic development of professional training outside of, and separate from,the mainstream of higher education. The entry of the professional schools on the campuses reflects an effort and is a substantial step in the direction of that mainstream. But most of the professional schools are still on the banks of the stream, or wet only to their knees. Their programs, their students, their faculties are in varying degrees outside the central foci of campus life. There is a degree of organizational distance, a problem on both sides of relating to each other, of serving and accommodating to each other, of welding their calenders, their procedures and the use of their resources. And there is a long tradition, deeply impressed upon some academicians' minds, of what the "proper" role of higher education is. For at least a few humanists, professional education is of a lower order, less scholarly, less respectable. For some scientists, professional application--and the training therefor--is of a lower order of human activity than the search for truth itself. A good many in both groups, the humanists and the scientists, who may be less than friendly toward each other, tend to be supercilious about professional education (even though they are both in the business of training professionals), and sometimes their attitude may be described as one of contempt and open hostility. Some of the professionals return the spirit in kind; they are critical of the humanists and "pure" scientists because of their alleged ignoring of real problems in the world today, because of their confinement to narrow disciplinary specializations. One senses that the attitudes on both sides (or, perhaps more accurately, all three sides) are in good part defensive. But they are present facts of life on the campus.

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[23] See Chapter III.

The professional schools are like Janus: they face on one side their professions and the organizations which hire their graduates; on the other, they face the rest of the university, its standards, aspirations, regulations and personnel (including students). They are at the university but not completely in it or of it. The position is a difficult one and often a delicate one. But it is also a strategic one which can be--and I am sure in many cases is--of great value, both to the rest of the university and to the society outside. The professional school provides a linkage between an important and esteemed occupational sector of the society and the knowledge "factories." It can bring to the appropriate places in the university the information derived from experience and problems from the real world which may direct and provide material for research and study by both scientists and humanists. And, conversely, it may translate the ideas and the findings of the academicians into terms that are usable in professional practice. It is one of our principal mechanisms for putting new concepts and new knowledge to work.

The effectiveness of the mechanism depends partly upon the degree to which the university barriers mentioned above are broken and partly upon the relations of the school with its own practicing profession. This brings me to a third educational problem: *the communications between the professional schools and the professions themselves, and the impacts and the constraints they have upon one another*. To what extent are the emerging problems and needs of professionals in the working world communicated back to the schools? And to what extent are they tooled into the curricula? Conversely, to what extent are the schools constrained, in the development of their programs, by licensing examinations, certification requirements for the schools themselves, hiring agencies, etc.? And which sectors and which points of view within the profession have most influence upon these entrance gates into practice? In the first paragraph of this chapter, I stated that the institutions of professional education are "shapers of the professions." But in some fields it seems that the "gatekeepers" of professional practice severely narrow the discretion of the educators. There is a good deal of variation in the methods, the degrees, and the directions of influence and control exerted on the professional schools as a product of gatekeeping. But one might speculate that it is most influential among the older established professions such as law and medicine, and that its effects are generally conservative: i.e., resistant to change in the traditional criteria and interpretations of professional content.

The final problem has to do with the knowledge and the orientation that professional education gives, or fails to give, with regard to *the larger social context within which professionals work, with particular reference to those graduates who will go into, or are already in, the public service*. This is not simply a refinement of the first educational problem mentioned above having to do with general education. For those professionals who reach influential "generalist" positions near the top of public hierarchies, it would appear that "general education," at least in certain kinds of subjects, *is synonymous* with vocational education. Particular attention will be given in the following chapters to this problem in relation to the curricula, the students, and the faculties of the professional schools.

CHAPTER III

EDUCATIONAL PROGRAMS AND CURRICULA

The great bulk of governmental professionals and executives in the proximate future will have completed at least a college program, or are currently studying in the colleges and universities, or will do so soon. The majority of them have been, or are, or will be studying "professional" subjects (in the broader sense of higher education for a more or less specific kind of career). The quality of our future public service and its leadership will depend heavily on: the content of the curricula, which not alone conditions the kinds of knowledge, skill and orientation of the students, but to a considerable extent defines what the substance of the individual professions will be; the faculties in the different fields--the nature, quality and orientation of their instruction and counsel; the students who opt for different fields--their numbers, abilities, and orientations.

This chapter and the two following undertake to review these three elements of professional education with a focus upon their significance for public service employment. At the outset, I emphasize that it does not attempt a general appraisal of professional education as a whole, a topic which would require a bookshelf of volumes. Nor is it based upon any original research. Rather it is grounded in studies and books and essays which have been made by others. This material is not abundant, and some of it is, to an undetermined degree, dated. There have been a considerable number of works about education for individual professions, most of them self-studies made by practitioners and teachers of those professions. Of the large number of studies of higher education, most have addressed themselves to the liberal arts, not professional education. There have been a limited number of works of professional education as a whole.[1] There have been almost none which focussed upon professional education in its relation to the public service.[2] The principal conclusion of these chapters may be stated in advance: the available information on this last topic suggests hypotheses and hunches which should be of grave concern to those interested in the improvement of the public service, but its paucity and inadequacy are such as to dictate further research that we may know where we are, where we are going, and what actions may be taken to improve the prospects.

It may be postulated that what professional students learn during their education influences not alone their capacity to operate in their respective fields through the acquisition of knowledge and experience, but also the norms, values, styles they associate with their profession and their view of where that profession fits in the society. That is to say that professional education (both pre-entry and mid-career) has a significant role in defining what a profession is, what its boundaries are, and what its relationships are to those elements of the environment beyond its boundaries. In turn, the nature and content of professional education in any given field and at any given institution are a product of a number of different influences, among which are:

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[1] Among these should certainly be included: Lloyd Blauch, Education for the Professions (Washington Government Printing Office) and two works by William J. McGlothlin, Patterns of Professional Education (N.Y., G.P. Putnam's Sons, 1960); and The Professional Schools (N.Y.: The Center for Applied Research in Education, Inc., 1964).

[2] Almost the only example is the work by Lucille Brown, Lawyers, Law Schools, and the Public Service (New York: Russell Sage Foundation, 1948).

history, including the origins and development of the profession in question, the development of education for the profession in general, and its prior development at the institution itself;

institutional relationships of the professional program on the campus;

the organized profession itself, including its licensing, registration, and accreditation processes;

the principal prospective employers of the program's graduates;

the faculties of the professional programs, their capacities, interests, values;

the students, their abilities, views of the profession in the world, and particular interests.

This chapter undertakes to describe the nature and content of professional educational programs and the trends thereof; and it proposes some hypotheses with particular reference to professionals who are destined for public service.

Patterns of Professional Education

There is so much variation in the typical patterns of education for the various professions today that a quick overview leads one to believe they are the products of a series of historical accidents. Most require a minimum of four years of college-level work, but the make-up of the four years varies widely. Some extend one, two, or more years beyond the bachelor's degree. Some professional programs begin at the freshman level; some don't formally start until one has graduated. Some have built-in intern or apprentice programs; others do not. Some build specific pre-entry requirements for specialized courses down into the high school level; others are remarkably permissive to the junior year and even into graduate education. While some of these differences may be rationally explained by the nature and difficulty of the subject matter and the extent to which each profession has a scientific underpinning, this is hardly a satisfactory rationale for the array. A more acceptable explanation lies in the history of each field, for each has been to a considerable extent unique in its development. All have gone through varying stages in their progress from apprenticeship to formal professional education, as mentioned earlier, and the evidence suggests that the progress toward more and higher-level education is still going on. In general, the older ones and those more immediately dependent upon science have the longer curricular requirements, though there are exceptions.

Figure I indicates the wide variety of patterns among the different fields. There is also a good deal of diversity among them in the degree to which the general pattern is standard and controlling. Some are quite flexible, permitting a good deal of experimentation and difference among different schools. In many fields for which the bachelor's degree has been the standard qualification for practice, master's programs are growing, and in a few, professional doctor's degrees are becoming fairly widespread. Some programs at some schools include internship or apprentice periods.

Figure I

Typical Pre-Professional Educational[3] Patterns in Various Fields (in Years)

	Undergraduate		Graduate	Other	Total	
	Liberal Arts and Sciences	Professional	Professional	Internship or Residency		Typical Journeymen Professional Degrees
General Professions						
Architecture		5			5	B.Arch.
Business Administration	2	2			4	BS
Dentistry	2	4			6	DDS
Engineering		4			4	BS
Law	3	1	2		6	LLB
Medicine	3	1	3	4	11	MD
Nursing		4			4	BS
Psychology	4		3	1	8	Ph D
Sciences (natural, biologic, and social)	4		1-5		5-9	BA, MA, or Ph D BS, MS, or Ph D
Public Service Professions						
City Management	4	(or 4 in engineering)	1		5	MPA MPA
City Planning	4		2		6	MCP
Diplomacy	4		1(optional)		4 or 5	BA or MA
Educational Administration	4		3-5		7	Ed.D.
Military		4			4	BS
Public Administration	4		0 or 1		5	MPA
Social Welfare	4		2		6	MSW
Teaching	4	or 4	1		5	MA

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[3] This figure is largely based on material contained in Lloyd B. Blauch, ed., Education for the Professions (Washington: U.S. Government Printing Office, 1955) and William J. McGlothlin, The Professional Schools (New York: The Center for Applied Research in Education, Inc., 1964), p. 46.

It may be recalled that in virtually all of the older fields, professional education in the United States consisted of apprenticeship or guided experience on a base of general education--at least to a minimal level of schooling. Those old, well-established professions historically associated with college education--the "learned" professions of law, medicine, and theology, which were the principal elements of the medieval European universities--tended, during the current century, to build their professional instruction on top of a liberal education. Likewise, some of the newer fields, the leadership of which consisted dominantly of college-educated people, built their professional instruction at the graduate level. These included a number of the public service professions--social work, city planning, city management, librarianship, and, to an increasing extent, diplomacy. In all of these fields in which the core of professional education was at the graduate level, the pressure of increasing content of professional subjects encouraged the penetration downward into the undergraduate years of professional and pre-professional subjects, often at the expense of general arts and sciences. In some cases, the senior or both the junior and senior years were virtually lopped off. In others, formulation subjects were made requisites for entry into the professional school, thus in effect enforcing some degree of pre-professional concentration in the first years of college and even in high school.

A second category of professional education consists of those fields which raised themselves "by the bootstraps" during the latter nineteenth and the twentieth centuries from the status of vocation to that of professions. In most cases, the predecessor practitioners were not college graduates, and professional education developed as a substitute for general education at the college level rather than as a layer on top of it. It may be noted, too, that some of these were more or less lineal descendents of the Morrill Act--"agriculture and the mechanic arts". Basic education for these professions remains at the undergraduate level, though in most of them, additional work at the graduate level is becoming increasingly common and even, in some places, required. They include: agriculture, engineering, business administration (and its sub-fields), forestry, nursing, architecture (though with a standard 5-year undergraduate curriculum), the military services, school teaching, among others. In terms of numbers of students and graduates, these include by far the largest fields of professional education and together comprehend a considerable majority of all new professionals. Here, too, there has been increasing pressure for more pre-professional education, mostly in basic sciences, penetrating back into the high-school level. Similarly several of these fields have been pushing toward making a five-year degree or graduate degree a staple for journeyman professional status.

A third category of professions is the sciences, natural, biological and social, which, by and large, have grown out of the universities themselves. The rapid growth of knowledge in each has produced pressure toward more and more concentration on specialized scientific content in the undergraduate major, creating a virtual monopoly of scientific subjects in the junior and senior years and penetrating in varying degree all the way down to the freshman year. At the other end of the educational stream too, it has contributed pressure toward more training at the graduate level. In some fields, such as clinical psychology and some branches of physics and chemistry, a Ph.D. has become virtually, even legally, requisite for professional practice.

A main push over the years has been in the direction of lengthening the periods of scientific and professional instruction in most fields. This has been--and continues to be--a response to a number of pressures: the growth of the subject-matter content of the professions themselves; the growth of scientific knowledge considered necessary and relevant to professional practice; the demand for ever-rising professional standards in the technical sense; the association of high educational requirements with high social status and prestige. It is likely that in the past the elevation of educational requirements has been encouraged by the established professionals to restrict their numbers after the fashion of medieval guilds, thus strengthening or at least preserving their economic position. This may be a motivating factor today in a few fields (possibly law); but the severe shortages of qualified people in most of the professions leads one to doubt that it is now a very important consideration. The pressure for lengthening the scientific and specialized professional courses has occasioned a number of expedients:

> addition of graduate work to the master and even doctoral levels as an increasingly "normal" requirement for better jobs (as in business administration, engineering, diplomacy, teaching, educational administration);
>
> adding a year to the basic program--i.e., a five-year bachelor's degree (as in architecture and some schools of engineering);
>
> forcing some of the basic scientific courses into lower levels of education, even the high schools through pre-entry requirements (as in most of the scientific and technical fields and in social welfare);
>
> reducing or limiting the development of general education courses (likewise illustrated in many scientific and technical fields);
>
> developing post-entry, continuing education programs as desirable

> or requisite for advancement up the career ladder (widely practiced among the public service professions, as in the elaborate school systems of the military services, in-service and university programs for the Foreign Service, summer courses for school teachers, mid-career programs for school administrators--and the developing programs for continuing education in most of the general professions).

In spite of these pressures for more and better content, the basic time structure and calendar for higher education in the United States remains one of its most impermeable, change-resistant feature. The four-year liberal arts program,with its lengthy summer holidays, was brought here from Britain by Harvard three centuries ago. And here it remains, though what is taught and how it is taught has been largely, though not completely, transformed despite the valiant efforts of some educators to modify it, usually in the direction of compression. Professional programs, once established and standardized,are almost equally stable. The basic four-year pattern for engineering, forestry, and business administration persists; so does the two-year graduate requirement for social workers, which was decided upon in 1937 by the American Association of Schools of Social Work, even though some at the time considered it premature and unrealistic.[4] During the last century, bills have been introduced in almost every Congress to establish a professional academy for diplomats, but none have passed, and recent attempts by the Kennedy administration to establish a professional graduate school in foreign affairs similarly failed even to be reported out of committee. If diplomacy constitutes a profession--and both sides of this question have been argued--it is a "sport" among the breed of professions in that it is the only one which requires no pre-entry professional education focussed on the subject matter of its work. The stability of the patterns and their diversity, growing essentially out of the social situation at the time of their early development, present a curious and unfortunate anomaly. For while virtually all the professions are built upon, and aspire to, a high degree of rationality in their approach to problems, their educational patterns, when viewed along side one another, appear quite irrational. How does one explain that:

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[4] On this point, see particularly Earnest V. Hollis and Alice L. Taylor, Social Work in the United States (New York: Columbia University Press, 1951), P.29 ff. A consequence is that only a minority of persons in the social work field have the MSW degree and far fewer are legally licensed. They, of course, constitute the elite.

> a psychologist or a lawyer or a doctor should have 2 to 4 years of general education while an engineer or a forester or a military officer requires little or none?
>
> the standard business administration curriculum is four undergraduate years with a modicum of general education courses, while the public administration curriculum typically starts at the graduate level, on top of a four-year program in general education?
>
> as many top level administrators in both the public and private fields are filled by engineers as by graduates of either public or business administration programs--and the engineers have little general education?
>
> full-fledged social workers need two years of graduate work and diplomats need none?

One consequence is that those who enter upon specialized, professional training at the start of, or early in, their college careers are deprived of many of the benefits of higher general education at the very time when higher education is coming within reach of a rapidly increasing proportion of our society. As indicated in earlier sections of this study, these constitute a growing majority of public administrators in fields crucial to the nation's development. Yet, aside from the scientific, technical, and vocational knowledges they gain through their higher education--which kinds of knowledge are decreasingly important as they rise to administrative posts--some have gained not much more than a high school education in broader and general fields; and these fields become increasingly important as they rise up the administrative ladder.

Institutional Relationships and Control

The nature of the structural and administrative relationship of a professional training program with the larger university of which it is a part importantly affects its independence and autonomy and the demands to which it is most likely to be responsive. For convenience, one may group the programs in four main structural categories:[5]

1. Professional Colleges. These include completely independent institutions in no way related to a university (teacher's colleges, military academies, etc. and substantially autonomous colleges within universities and on their campuses. Typically, they provide four-year undergraduate curricula beginning with the freshman years and grant B.A. or B.S. degrees. They may, in addition, offer graduate programs. Examples include colleges of: agriculture, architecture, education, forestry, military.

2. Professional Schools (with undergraduate emphasis). These operate as more or less integral parts of a university and **must** meet its overall requirements and standards though with substantial self-control over the professional curricula. Some begin with the freshman year and carry through to the bachelor's degree. A more widespread pattern is to pick students up when they choose their majors at the beginning of their junior year. Graduate work and degrees may also be offered. Examples include schools of: business, criminology, journalism, nursing, social work, sometimes education.

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[5] The groupings, and the designations I have given them, are necessarily somewhat arbitrary and may not be strictly accurate at any given university. And some of the fields are provided at different places by two or three kinds of structures (notably education). I do not here include programs in academic subject matter for elementary and secondary teaching and for teaching and reserch in higher education. These are included in virtually all fields and programs.

3. Professional Graduate Schools. Most of these operate on, and as part of, a university campus. They must meet overall university requirements and standards, but have substantial control over the graduate professional offerings. Their emphasis is upon graduate degrees, but many offer undergraduate courses and some, majors. Examples include: city planning, law, librarianship, dentistry, medicine, public administration, public health, social welfare.

4. Academic Departments. These produce substantial numbers of professional practitioners, either as an avowed objective or as a by-product of academic training. In general, the official beginning of department control of students' programs is with the choice of major in the junior year, but, in the hard sciences particularly, career choice is increasingly being forced back to the sophomore and freshman years because of pre-requisites. Emphasis is placed on graduate training, and in some the doctoral degree is a professional requirement. Professional programs of one kind or another are provided by most academic departments, but, for purposes of the public service, the most important are: the hard sciences--chemistry, physics, biological sciences, earth sciences, mathematics, statistics; the social sciences--anthropology, economics, government (especially public administration), psychology, sociology.

There are, of course, wide variations among different universities as to how individual professional programs are set up. Furthermore, formal organizational relationships offer only a clue as to the locus of real operative control. Yet one might hazard a few generalizations, other considerations being held equal. Professional colleges which are completely or substantially autonomous are less likely to be constrained by normal university and academic standards, particularly in the direction of general education. Their faculties tend to have fuller control over program and curriculum as well as standards of entrance, standards of performance, degree requirements, and like matters. Having less easy recourse to the course offerings of other academic departments, they often have to provide more courses outside the central focus of the profession, partially duplicative of regular university offerings. They are in a less favorable position to use the university requirements as buffers against the vocational demands of their profession and of the market for their students. By and large, they are more responsive to their profession and less so to academia, either on the scientific or the general education sides. Professional practitioners and their organizations are likely to favor this kind of structure for these very reasons, and some of them, such as in the accreditation of business schools, demand a substantial degree of professional school autonomy for accreditation

At the other extreme is the professional training conducted by the academic departments, especially in the sciences. They are, of course, completely governed within the rules and regulations of the university, which, however, their faculties have a significant voice in shaping. They are conditioned, too, by the ethos, the objectives, the workways, and the culture of academia which are typically inhospitable to vocational training (except for the vocations of teaching and research). They are likely, therefore, to resist or ignore the demands and pressures of the outside professions and non-academic hiring organizations. Some discount or completely disavow professional education, holding that preparation for practice is contrary to the first mission of the university: the search for and dissemination of truth.

Lying at various points across the broad spectrum between the ultra-violet and the infra-red, described above, are the professional graduate and undergraduate schools. These must face both ways: toward the university for its general requirements and standards, the pools of students from which they must select, the resources for general education, and the drive toward academic excellence; toward the profession and toward the market for its graduates to satisfy vocational demands (including for some accreditation and registration requirements). In some ways, they command the best of both worlds. They can rely upon the academic demands of the university to resist an excessive vocationalism, and upon the demands of the practicing professionals to resist an excessively academic orientation. Of the two, the graduate schools can have greater assurance of academic quality among their students--assuming, of course, that they receive enough applications. They also can have greater assurance that their students will have a broad educational base. But in both cases, the imposition of entrance pre-requisites can greatly restrict the breadth of general education before entrance.

What is Taught and Not Taught

Generalization about curricula is hazardous. Course titles and descriptions are sketchy and often tell rather little of the flavor of the syllabus. There has not been much over-all analysis of curricula in professional fields which would compare one with another. There is considerable variation among different institutions in the same field and even within the same field at the same institution. Finally, my examination of the current literature suggests that most fields are in a state of ferment as to their curricula, attended by a good deal of internal disagreement, self-criticism, experimentation, and change. Professional education, like other education, is in a state of transition, a condition which promises to be permanent. With the accelerating pace of social change and of growth of knowledge, such a condition is probably normal and, by and large, healthy.

The paragraphs which follow pretend no comprehensive treatment of the problems of professional curricula. They endeavor only to identify and introduce some of those problems which seem most relevant for the public services of the future.

The content of education for most professionals may for convenience be divided into four main parts:[6]

General Education, defined as those fields of learning outside and beyond the immediate tasks of the profession or the sciences necessary for them. It serves two purposes: the cultural purpose of developing the whole man, broadly educated; second, the semi-vocational purpose of providing a basis for understanding the full social and natural context of his career work. It may be noted that the content of general education differs among different professions. Thus, in professions which are grounded in biological or natural sciences, general education includes principally humanities and social sciences; for those grounded in social sciences, it includes principally humanities and the hard sciences.

Foundation Sciences, defined as those subjects considered essential as underpinning for professional study. They of course differ among different professions, and, for many, there is argument as to which sciences should be so treated.

Professional Subjects, including professional sciences, which constitute the core of professional curricula. They consist of those applied sciences and other subjects, or the grouping of a number of them, which have direct pertinence to the individual profession.

Application, or the art of synthesizing relevant knowledge and applying it to problems.

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[6] For this classification and some of the subsequent discussion, I am indebted to William J. McGlothlin, The Professional Schools (New York, The Center for Applied Research in Education, Inc., 1964), Chapter IV.

These four elements of professional education need not be offered in sequence, although the order in logic--from general to specific and from abstract to applied--is that shown. However, general education in some professional fields is offered and required throughout the period of professional training; foundation sciences are often continued at the same time as professional courses, and instruction and practice in application are often interspersed with courses in professional subjects. It may be noted also that one of the major justifications for the location of professional schools in university campuses is the utilization of university resources for foundation sciences[7] and, to a much lesser degree, for general education.

The explosion of knowledge in many fields and the accompanying deepening and specializing of science have had a number of significant consequences for professional education. They have demanded increasing attention and time for teaching the substantive materials deemed essential for professional competence; and they have forced increasing specialization within most of the professions themselves. Some of these demands have been and are being met by pushing requirements back into the high schools and the lower division years of college by the vehicle of pre-requisites prior to entry into professional training.

A second consequence has been a continuing pressure to reduce--or to restrain the expansion of--courses not directly relevant to the sciences considered essential to the profession itself. This means the limitation of study in those fields usually comprehended under the expression "general education". There has been some pressure in the other direction in certain of the more progressive institutions, sometimes forced upon the professional programs by the university itself. In general, however, education for engineering, forestry, architecture, medicine and other health fields, and the natural and biological sciences contains only minimal treatment of social studies and humanities. A substantial fraction of these fields--such as communications through composition and speech, and economic analysis--are treated as tool courses, necessary for academic study or for practice in the major professional field. Where some academic work in the social and humanistic fields is required of students in the "hard" sciences and professions, they suffer a disadvantage in competing with major students in the former subjects. (Of course, the same is true, in reverse, of students in the social and humanistic fields attempting to learn about the physical sciences and professions.) One escape has been the establishment of "survey" courses for the non-majors, which are often viewed with disdain by both professional students and professors. Another has been the searching out of easy and superficial courses in various fields which offer the minimum obstacles and effort to satisfy the non-professional requirements. This situation has been aggravated and encouraged by the compartmentation of disciplines within the academic departments and the focus of the faculties of each upon their own majors and graduate students. Visitors from other fields (particularly professional fields) are not invited and, in some cases, are specifically excluded.

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[7] This seems to be particularly and increasingly true because of the growing interdependence of the sciences and such professions as medicine, engineering, criminology, public health--but not law. Some medical schools, set up at or moved to big city hospitals are now moving back to their campuses to be near the science laboratories.

In general, this difficulty is less prevalent in fields in which professionalization does not begin until graduation from college. Thus, most law students have a fairly broad educational base, and the same is true of candidates for master's degrees in social welfare, public administration, city planning, librarianship, and others. In fact, over the past several decades there has been a reverse movement in the direction of broadening the educational base in the case of some of the public service professions such as the military, education itself, and diplomacy.

A third consequence of the knowledge explosion in the sciences has been a declining emphasis upon the techniques of professional practice and upon the solution of practical problems of society today. Application was at one time the heart of professional education. Today, the formal teaching of it in many professional schools is demeaned and minimized. The techniques of practice are being pushed back (perhaps properly) to the employer through internships, apprenticeships, and supervised initial practice. There remain a number of fields in which the educational institutions retain programs for preparing their graduates to practice. As McGlothlin suggests, these are principally the fields in which a significant number of graduates enter practice in fairly isolated circumstances where they have at once to make decisions on their individual responsibility, such as medicine, dentistry, social work, architecture, and, to a lesser extent, school teaching.[8] But in most professions, the educational institutions are devoting rather little--and probably declining--attention to application. (For example: engineering, law, the natural sciences, economics, city planning, business and public administration.) Recently, in some of these fields, the introduction of simulation techniques and the case method has served in part in bringing problems of application into the classroom. But over the long pull, there is a widening gap between the knowledge and even the language spawned and taught in the universities and the problems faced by professionals in the society. There is reason to fear that professional education programs are decreasingly effective in bridging the gap.

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[8] William J. McGlothlin, op. cit., p. 23.

The emphasis upon the substantive content and the scientific bases of individual professions has inhibited the treatment of the professions themselves in their larger social setting, their mission in the society, their relations with other fields of knowledge and with other professions. My brief review of a sample of university catalogues and of a sample of the literature dealing with education in the general professions revealed surprisingly little attention to: the historic development of any specified profession; its obligations to the society as a whole and its responses to social problems and demands; its organization as a profession; its social and political impact; its aspirations. There are, in a few fields, offerings about professional ethics, but, in most cases, these concern the behavior of a professional in dealing with a client, not in an organizational context.[9] Few give more than passing mention to the formation and execution of public policy, even such policy as is clearly within their particular sphere of competence. There are occasional treatments of organization and its management, particularly in the fields of engineering, business, and law. Most of these are directed to private corporate organizations. Almost always, governments are treated as organizations to be dealt with or against, not worked for and within. Yet, as has been discussed in an earlier chapter, professionals in these fields occupy a substantial share of the most influential posts in government. They have, and will surely continue to have, enormous influence in the formation and administration of local, state and national policies of this country.

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[9] On the discrepancy between role expectation as depicted in professional education programs and role realizations in the organizational context see Ronald G. Corwin in Mark Abrahamson, The Professional in the Organization (Chicago: Rand McNally & Co., 1967), pp. 93-101.

The natural and biological sciences appear to address almost no attention or teaching to the social context of their professional products, other than as educators, although they staff and administer some of the most important public programs. On the other hand, the programs for public service professionals, such as public health, social welfare, city planning, and school teaching provide some treatment of the broader social aspects of their various fields, and some of them deal with organization and its administration. Few, however, deal with public policy and its development. Politics is a bad word in these, as in other professional fields.

CHAPTER IV

THE FACULTIES

The crucial significance of university professors in the nature and directions of the professions is manifested in at least three principal ways. First, they have an influential voice in the determination of the nature, content, and length of teaching programs which were discussed in the foregoing chapter. This influence, reenforced by the academic demand for self-government, academic freedom, and individual autonomy has, in some fields and some places, grown to the point of almost complete control. Secondly, through their research and publications, including textbooks, as well as their own courses, lectures, and other student contacts, they largely define the profession itself and thus, indirectly and over the long pull, determine what professional practice will consist of in the future. In a good many fields, this influence is reenforced through academic control over the institutions of accreditation. Finally, through their direct associations with students, they, probably to a more limited degree, condition the norms and values, the ethics, the occupational aspirations, and the understandings of objectives and context of professional behavior. The extent and the directions of this third type of influence are discussed in the succeeding chapter.

Studies of faculties have been few in number and usually hortatory rather than factual and analytical. Most of what follows may best be read as a series of generalized hypotheses, requiring a good deal more empirical study. The evidence currently available is skimpy.

The Natural History of Professional Faculties

Most professional education originated from practice rather than from research and proven knowledge. Its development has been from the street toward the ivory tower. Among the older professions in this country, it progressed from apprenticeship in operating offices to proprietary schools, taught by wise and experienced practitioners, to university campuses, themselves at first relying upon practitioners. Thence it has moved toward science and away from practice, toward the theoretic and away from the applied. The younger professions, some of which began on university campuses and lacked the tradition of apprenticeship and proprietary schools, followed a similar course from the vocational and applied toward the theoretic and scientific.

This trend has been matched with and married to another one: the upgrading of faculty in professional fields in terms of academic standards. In the beginnings of any new professional field, there were few if any teachers who had knowledge of the subjects and also had academic credentials. Some lacked even the bachelor's degree, and an academic doctorate was very unusual. But establishment of professional training on the campuses and recognition of its respectability as a legitimate field of academic endeavor began a slow, sometimes halting, but inexorable development in the direction of academic uplifting. This was in considerable part necessitated by the growth of foundation sciences and the increasing recognition of the dependence of professional practice upon scientific knowledge and principles. Thus engineering gradually came to be seen, not merely as the design and creation of structures, relying mostly on the rule of thumb and the lessons of experience, but as an overlay on the disciplines of mathematics, physics, chemistry, and others. Similar logical ties were gradually established by virtually all professional fields: medicine with organic chemistry, psychology, anatomy, physiology, etc.; law with political science, economics, sociology; social welfare with sociology, economics, and other social fields. Academic background of faculty members, at least to the level of the master's degree and increasingly to the doctor's degree became more and more necessary, not alone in the foundation sciences but among the professional faculties themselves.

The movement was reenforced, particularly in recent years, by the ever-accelerating growth of knowledge and of scientific inquiry. In face of the onslaught of new understanding and greater knowledge, what can be more fragile than appropriate and efficient ways of doing things, operating methods? The graduate of professional training may find himself out-of-date in terms of vocational practice ten years after his training--or five years, or two. There is therefore growing and entirely defensible pressure in professional education toward concepts and principles rather than skills and vocationalism. "The only knowledge of permanent value is theoretical knowledge, and the broader it is the greater are the chances that it will prove useful in practice because it is applicable to a wider range of conditions."[1]

Location on the campuses also had an important motivational and social effect. For it meant and to some degree compelled the gradual absorption by the professional schools of the standards and values of academia. Professional faculties in the campus environment sought the respect and esteem of their colleagues in the more traditional disciplines, and, in varying degrees at different institutions, were compelled to match the minimal academic credentials. By and large, these did not include extensive experience in the real world; rather, their emphasis was upon academic attainment as measured by degrees and grades and subsequently by research and publications. Practical experience came in many fields to be discounted,and later systematically derogated. Experience could be a threat to objectivity and value-free inquiry. On the other hand, the research which was most highly valued was that based upon abstract theory, and studies and experiments that were quantifiable and esoteric. The pressures upon the professional faculties, as upon those in the traditional fields, were away from vocationalism, toward science and research.

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[1] Rene J. Dubos, "Adaptability for Survival and Growth" in Values and Ideals of American Youth, Eli Ginzberg, ed. (New York, Columbia University Press, 1961), p. 12.

The consequences of these pressures have included the gradual reduction, in some cases, elimination, of vocational backgrounds among professional faculties and the gradual rise of purely academic credentials. One evidence was the replacement of part-time practitioners by full-time teaching staff in many fields--most marked in medicine, though by no means yet complete in the medical schools. A second was the reduction of full-time faculty whose only qualifications lay in experience and their replacement by usually junior faculty members whose primary or sole qualifications were academic. The former group are still used in the heavy shortage fields of professional education but often as visitors or lecturers, decreasingly as part of the tenure staff. At the beginning of any new professional field, there were of course no academically qualified professors in that field.[2] This vaccuum led to a number of remedial steps, more or less in sequence. A first one was to borrow properly credentialled professors (or associates or assistants) from related, respected disciplines, especially those which could properly be considered foundational for the profession.[3] These might be brought in only to teach a course or two on a reimbursable basis or be engaged through a joint-appointment with an established disciplinary department. These arrangements seem not to have been very durable in most areas, partly because of the inevitable division of loyalty, dedication, and time. And often the professional school got the short end of the transaction since the primary loyalty of most professors in established disciplines was more likely to be with the discipline than with the profession. A stabler and more reliable recourse was to hire credentialled professors from other fields on a full-time-tenure basis--as mathematicians and physicists in engineering, economists and sociologists in education, economists in business, political scientists in public administration, etc. Here, however, the professional schools were at something of a disadvantage in the employment market, and in many places still are. Most of the best young academics are likely to prefer to stick with the prestige and future promise of their own discipline rather than move into professional training.[4]

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[2] Except in a few fields where a small number of professors could be drawn from overseas countries, as in the case of forestry.

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[3] Physicists for engineering; economists for business (and other fields); political scientists for public administration; sociologists for welfare and criminology; etc.

[4] However, there are a great many distinguished exceptions to this generalization--teachers, self-selected, because of their interest in the problems of a given profession and often their dissatisfaction with the purism and academism of their discipline.

Among the majority of professions, however, the basic drive was to develop graduate programs of their own, providing degrees appropriate to the campus environment. This meant usually master's degrees as a starter (where the professional program itself was entirely undergraduate), and later doctoral degrees. The doctoral degrees in each professional field increasingly become dual--one a "professional" degree, designed usually for advanced occupational practice and managed by the professional school or department itself; and the other, the PhD for teachers and researchers in the field, normally managed by the university and meeting general academic standards and requirements.[5]

I have found no statistical evidence to validate (or invalidate) the hypothesis that professional faculties in general are becoming more "academized" in terms of the proportions of their faculties who have higher academic degrees. It is possible that tendencies in this direction among the better established and more prestigious schools are balanced in net terms by the growth of faculties of lesser academic qualifications in other, less demanding institutions. The only data I have found shows the percentage of new full-time teachers who have doctor's degrees, and the proportions have been rising in some fields, falling in others. These data, however, are misleading since in many fields new appointees are customarily hired before, but in anticipation that, they obtain their doctorates. This is more true in the social fields than the physical ones since in the former the graduate students are less likely to receive fellowship support and normally take longer to complete their dissertations. Thus, between 1953-4 and 1964-5, the proportion of new teachers in engineering who had doctorates when appointed increased from 16 per cent to 45 per cent, and, in physical sciences, from 53 per cent to 59 per cent. On the other hand, the proportions declined in education (from 37 to 32 per cent), in journalism (from 18 to 6 per cent), in law (from 32 to 19 per cent) and in social sciences (from 42 to 28 per cent).[6] Undoubtedly, the quantitative demand for teachers has outdistanced the supply of doctorates in some fields. Yet the drive toward academic accomplishment and respectability seems unquestionable. Curiously, it has probably had least influence among those professions which are most historically esteemed such as medicine, dentistry, law, and architecture. Here the reputations of the professional degrees of M.D., D.D., LLB., and B.Arch. have been sufficient to resist the encroachment of the PhD. But those professions which are relatively new and are seeking respect and academic acceptance lean toward the substance and the accoutrements of academia. Thus a quick check of the catalogues of five major universities revealed that more than half of the professors and associate professors--the tenure journeymen--in principal professional fields had PhD's and another fifth had professional doctors' degrees. If to these are added the LLB's and LLM's, which normally require three or more years of graduate work in law school, the total with doctoral degrees or their near equivalent comprised five-sixths of all the tenure professors. (See Table I.)

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[5] Some--by no means all--of the professional fields in which PhD's are now offered--usually in addition to professional degrees are: engineering, business, public health, social welfare, criminology, public administration, library science, agriculture, city planning, mining, education, forestry.

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[6] National Education Association, Teacher Supply and Demand in Universities, Colleges, and Junior Colleges, 1963-4 and 1964-5 (Washington: April, 1965), p. 17.

TABLE I

Highest Degree Attainments of Professors and Associate Professors in Professional Programs in Five Universities*

Professional College or School	PhD's	Professional Doctorates	LLB's	LLM's	Masters	No Grad. Degree	Total
Business	182	18	8	0	17	0	225
Education	183	120	0	0	9	0	312
Engineering	230	47	0	0	104	18	399
Law	3	34	68	17	1	0	123
Social Work**	19	18	0	0	20	3	60
Total	617	237	76	17	151	21	1,119
Percentage	55	21	7	2	13	2	100

* Based upon the 1966-67 catalogues of the Universities of California (Berkeley), Alabama, Columbia, Southern California, and Texas.

** Reported for only three universities: California (Berkeley), Columbia, and Southern California.

Consequences: The Faculties Today

There has not of course been equal progress among the faculties of different professional schools in the direction of science and research. Some started later and had further to go; some progressed less rapidly than others. It seems likely that the professions closely related to disciplines associated with things, the natural and biological sciences, developed more rapidly in this direction than those dependent upon studies of people, the social sciences. This in turn probably reflected the more rapid development, particularly in recent years, of the hard sciences themselves and of the popular and academic esteem in which they were held. In some cases, academic development was confused and retarded because of disagreement and transition in concept about the proper professional content and about what disciplines education should be based upon.[7] To some extent this situation has characterized the development of all professional education, and still does. Yet, in some fields it has been more virulent and endemic than in others. For example, city planning, early grounded in three other professional fields--architecture, landscape architecture, and engineering (with a sprinkling of zoning law)--gradually but haltingly moved toward more socially oriented studies such as urban economics, sociology, political science, geography. Another example is city management, once based on engineering, shifted gradually toward public administration at the graduate level (though a still significant proportion of city managers start from an undergraduate foundation in engineering).

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[7] It seems very probable that the failure of some of the emergent public service professions to mature arises from the lack of consensus as to what the foundation disciplines should be. For example: budgeting, assessing, Foreign Service, to mention a few.

There is also a wide disparity among different institutions in the same professional field in regard to the distance they have traveled along the path to scientism and research and in the orientations of their faculties in this direction. In general, the best established, most experienced, most highly esteemed professional schools are *not* distinguished by the number of the practitioners they produce. Rather, their accent and their reputation rest on the scholarship of their graduates, many or most of whom aim toward careers of teaching and/or research. In the faculties of these schools are found the highest proportions of graduate degrees, and from them emanate the majority of research monographs and scholarly books.[8]

A third type of disparity exists *within* the faculties of individual professional schools. Although I have found little survey evidence relevant to the point, reading of the literature about training in individual professional schools and my rather limited acquaintance with some of them leads me to believe that there is a considerable difference in backgrounds and perspectives among professors in the same school and on the same campuses, particularly among the newer fields of professional development.

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[8] One might hypothesize, however, that there is an endpoint in the drive toward scholarly excellence. Schools which have established themselves at the pinnacle of academic reputation need worry less about university acceptability and the accoutrements of scholarship. They may even move in the other direction, engaging on their faculties noted practitioners from the working world who lack distinguished academic degrees or significant experience in teaching or research.

The older men and women are often drawn from a background of practical experience and are likely to have had less academic and scientific orientation and equipment. The younger ones, recent products of the university, most frequently have (or are about to acquire) doctoral degrees in the profession itself or in a related foundational science. Relatively few have much if any experience in the practice of the vocation. Each profesional department or school thus becomes an arena of intergenerational difference of perspective, knowledge, aspiration and potential conflict. The differences are magnified in those fields in which there is rapid growth of knowledge. The senior professors are likely to appear obsolescent to the junior; indeed, in terms of academic criteria, a good many of them may be obsolescent. It should be observed, however, that this kind of situation is not unique to the professional schools. It is very nearly standard in most branches of universities today--the physical sciences, the social sciences, and, to a lesser extent, some of the humanities. In professional schools, the disparities are especially severe because they have moved so far and so fast from pure vocationalism toward science.

Though there is not much objective data, one might deduce certain characteristics about professional faculties today in relation to their predecessors. There has been a tremendous accretion of knowledge in almost every field and in the sciences on which they rest. Very probably, the professors by and large know a good deal more about the subjects of their professional field and about its scientific underpinning now than in the past. This does not mean, however, that they are better teachers than before--because professional schools pay no more attention to the teaching skills than do the liberal arts schools;[9] and this is generally very little indeed. It seems likely too that the professional faculties have less interest and less acquaintance than their predecessors in the operating characteristics and problems of practitioners or in the role and responsibilities of the profession in the larger society.

It is probable too that the general intellectual equipment of professional faculties is, on the average, higher than in earlier decades. This would seem a reasonable deduction from the growing attractiveness of college teaching as against other careers in society as a whole as well as the rising standards of entry into academia and the growing demand for doctoral degrees. On the other hand, the traditional academic disciplines still appear to be more attractive for most of the brightest students; they probably outdraw the professional schools--though as noted earlier, there are many outstanding exceptions.

Finally, the growing sub-specialism of relevant knowledge and of vocations within each profession has forced a comparable sub-specialism in the academic faculties. Each faculty must now include a considerable variety of sub-specialists, and in the larger fields particularly--like education, engineering, business, medicine, law--whole departments of sub-specialisms are common, each containing a variety of sub-specialists. This situation among professional faculties is entirely comparable to that associated earlier with professional fission. With the deepening and narrowing of subject-matter, there is growing variety of foci among the faculty, though not necessarily of value systems and orientations. And there is greater and greater difficulty in obtaining and developing professional generalists who can view the entire field of the profession as a whole.

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[9] A rather surprising exception to the widespread criticism of the quality of graduate teaching is that of the law schools. The great majority of students in law schools, as reported in the NORC study of _Lawyers in the Making_ (by Seymour Warkov, Chicago, Aldine, 1965), rated the caliber of their classroom teaching as "good" or "excellent". Martin Mayer, in his article on "Law Schools: The Thinking Man's Bastion" concluded that: "Law-school teaching is on the average (especially in the first year) more intense and more intelligent teaching than is offered in any other variety of academic institution in the United States." (_Harper's Magazine_, June, 1967, p. 70.) However, Mayer himself questions the content of the education and its purpose. Whether the quality of teaching can be judged apart from the substance of what is taught is, in the lawyer's jargon, at least moot.

Faculty Attitudes Toward Employment

There have been regrettably few studies of trends among professional faculties in terms of their backgrounds in education and experience. Similarly, there have been few studies of the attitudes of professional faculties towards their fields of teaching, their personal aspirations, their students, their definition of their fields, their teaching goals, and like subjects. The scattered indications which I have found lead me to suggest for further study and validation (or invalidation) a few hypotheses.

College teachers tend, perhaps unavoidably, to concentrate upon recreating their student products in their own image; this tendency is particularly virulent in their treatment of their better students. Insofar as that image is of a scholar, a researcher, and a scientist (as distinguished from a vocational practitioner), their emphasis will be upon research and scholarship. This perhaps explains why such a high proportion of the best students in their senior years aspire to careers of college teaching and research. (See Chapter V below.)

Professional faculties tend to concentrate on the objective subject matter with which the professional deals to the neglect of the manner and purpose of applying it to real-world problems. This extends to a more or less systematic ignoring of different kinds of employment by different types of employers (self-employment, university or research organization, private business, government, etc.). That is, the subject matter is treated as neutral to the purposes for which it may serve. This tendency is responsive to the demand of science for complete objectivity. It also satisfies a double defensive role for some teachers; an escape from the realities and problems of professional practice, about which many know rather little; and escape from controversial social and political problems which may attend the practice of the profession--about which they may know little more.

Professional faculties share, with their professions and with the liberal arts faculties, an abhorrence for the mixing of politics with the substance of what they are teaching. This does not imply that they shun politics and political participation in their personal lives--only that their teaching should not be mixed with, or concern, politics.

Faculties generally, though with some conspicuous exceptions, rate public employment rather low on the pecking order of employment possibilities. The recent Brookings Institution study of attitudes toward the Federal service showed that college teachers generally rated their present employment distinctly above the "same occupation, but for the Federal Government", and the same was true of three sub-groups of college faculties: natural scientists, social scientists, and engineers.[10] On the question of the comparison between Federal and private business, the college teachers, excepting the engineering faculties, gave a slight preference for Federal. Clearly, faculties are less than enamoured of employment in large administrative organizations. The occupational values and dis-values which they emphasized in response to the Brookings questionnaire are such as to discourage them from either public or business administration. The values which they emphasize are self-determination, freedom in their work, opportunities for self-development, self-expression, and creativity. They do not stress as much as other groups such factors as financial reward, fringe benefits, and security. Against Federal employment (and probably business employment as well) their heaviest demerits are their perceived loss of self-determination, infringements on individual initiative, and "bureaucracy", meaning red tape, waste motion, unwieldy size, etc.[11]

The Brookings study concludes that: "By most standards, however, college teachers do not appear to be highly drawn toward Federal employment. . . . Certainly the general mood of the academic community is not especially conducive to leaving academia and entering federal service.

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[10] The study by Franklin P. Kilpatrick, Milton C. Cummings, Jr., and M. Kent Jennings appeared in two volumes, both published by the Brookings Institution in Washington, D.C.: The Image of the Federal Service; and Source Book of a Study of Occupational Values and the Image of the Federal Service. They are referred to herein as Kilpatrick I and Kilpatrick II, respectively. Basis for the statement above is found in Kilpatrick I, 98-99.

[11] Kilpatrick I, 68-9, and II, 163-4 and 210-11.

More important, however, is the influence, both of a direct and a more subtle kind, which college teachers have, or can have, on the occupational outlooks of their students."[12]

The principal indications which lead me to the hypotheses suggested above are not survey research. Rather, they are inferred from the writings of educators in a variety of books and professional journals, the nature of curricula which faculties have the most determinative voice in framing, and the attitudes of students in professional or pre-professional programs. Much of the evidence, such as it is, must be drawn by inference and is essentially negative in character. It includes: the failure of the literature to mention, let alone discuss, employment considerations in various fields; the ignoring of public employment, even where large proportions of the graduates will certainly go into government; the general avoidance, in professional literature and curricula, of policy and political issues which are of vital import to the profession in question and to which it will certainly make a significant contribution; the avoidance of the political and governmental processes whereby public policy is made and effectuated. There is undoubtedly a great deal of variation in these matters among different fields, and one would guess that the faculties in the general professions (such as law, medicine, dentistry, engineering, and natural sciences) would have less concern about policy, political, and governmental questions than those in the public service professions (such as education, social welfare, public health, city planning). My own reading is that the professional faculties are running just as fast from these hard, not very scientific, problems as are their colleagues in the humanities and social sciences, even though the former are, by and large, more dependent upon governmental support and more immediately faced with questions of public policy.

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[12] Kilpatrick I, 99.

Herein lies a curious and possibly tragic irony. American governments--and particularly the federal government--have contributed tremendous support for certain professional and academic fields, notably the natural sciences, the biologic and health sciences, engineering, and a few others. Yet among the faculties in these fields, there seems to be diminishing understanding of, or knowledge about, or appreciation for, government, its purposes and processes. One might hypothesize that the greater the dependency upon government, the lesser the sympathy for it.

A deeper and more threatening difficulty lies in the increasing specialism of science, both physical and social, and in the widening gap between the professors--the men who search for truth--and the politicians-administrators--the men who decide and do. As scholars proceed deeply and narrowly into their subject matter, the problem of converting their findings and their wisdom into social policy becomes ever greater. The need for integrators, synthesizers, and translators grows. The development of a high degree of intellectual specialism may constitute "trained incapacity" for social decision. With some, and hopefully increasing, exceptions, the professors have not addressed themselves to the problems of society seen as a whole. The divisions among disciplines and subdisciplines, among professions and sub-professions, and between disciplines and professions discourage a gestalt approach. Yet no profession and no discipline can, by itself, treat effectively with any major social problem today, be it the city or civil rights, or overseas development, or poverty, or war and peace, or the revolt of American youth. The compartmentalization, the standards, and the incentives of academia have for some time militated against a social problem orientation, and there is little doubt that these elements have not been lost among the students. There are brightening signs among professors in a number of professional fields of addressing problems in their total context and of aligning themselves with other professions and disciplines in attacking them. Hopefully we may be balancing the trend toward scientism and the separation of academia from the real world.

CHAPTER V

THE STUDENTS

Obviously, the bulk of operating professionals in government and elsewhere in the future will be college and university graduates. These will include the great majority of our career public leaders. The students are the raw material of our future public leadership; and the nature, interests, abilities, and aspirations of the students must certainly be as important for American governance as the programs and influences which they are exposed to in their professional education. About them, I would pose three basic questions. The first concerns the kind of specialization each student chooses, whether general or professional and, if the latter, in what kind of specialization. This question has been the object of a great variety of studies in virtually every professional field as well as of some general studies about occupational choice.[1] A second question is what type of employment and employer the graduating student will opt for, if he indeed has any choice? And a third is whether he chooses a particular type of employment for a career or as a preparation and stepping stone, a question particularly important for certain kinds of professional employees in government.

These questions are becoming increasingly crucial for government today for at least three reasons. In the first place, the majority of professions, and particularly those in heavy demand by governments, are shortage fields. This seems to be true of both those fields we have classified as general--such as medicine and all its branches, engineers, natural and certain kinds of social scientists, and many others--and the public service professions--teachers, social workers, and others. The critical areas for public personnel administration are those for which new recruits are in short supply. In these fields, selection is a competition among employers, not applicants. The underlying question is the self-selection of potential professionals--first, for their professional field and second for their employment.

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[1] Such as: Eli Ginsberg, Sol W. Ginsburg, Sidney Axelrad, John L. Herma, *Occupational Choice: An Approach to a General Theory* (New York: Columbia University Press, 1951); Anne Roe, *The Psychology of Occupations* (New York: John Wiley and Sons, Inc., 1956); and Donald E. Super, *The Psychology of Careers: An Introduction to Vocational Development* (New York: Harper and Brothers, 1957).

A second consideration is that, as professional specialization advances and as the educational requirements for the different fields increase, it becomes more difficult for any individual to change his occupational field, once his initial decision is made. That is, the student, adolescent or young adult, by his initial decision pretty largely commits his occupational career. Changes of employers within the same professional field are possible and may be enhanced by increasing professional identification, though even this is inhibited by career systems of employment in agencies, both public and private, which generally resist lateral entry. But for a great many young men and women, their decision as to educational field of study constitutes a commitment for an entire working life.

The third consideration, related to the second, is that in many professional fields the basic decisions of those who will become professionals are made early in life--sometimes before they graduate from high school and usually by the time they are juniors in college. Typically, that is several years before they are prepared to discuss employment by any particular agency. This suggests that recruitment for government professionals in a great many fields to be truly effective should begin as early as the senior year in high school.

The Choice of Career

We have noted earlier that a large part of the process of choice of career field and of type of employer takes place well before the public recruiter approaches possible candidates. In fact, in many fields, the pool of possible applicants is so limited by the time they enter the labor market that he must take whatever he can get without any selective process whatever. This pre-employment selection has been somewhat inaccurately referred to as "self-selection," though it is clear that many factors which enter into it--such as sex, intellectual ability, economic resources, personality attributes, etc.---are completely or partially beyond the discretion of the individual concerned. It therefore behooves those interested in the nature and the quality of the public service to look behind the current hiring process to discover what kinds of people choose what fields and, to the extent possible, why; and within these general career groups, who choose governmental employment. The paragraphs that follow draw certain salient observations and questions principally from two significant recent studies: first, a nation-wide survey of the career plans of college graduates of 1961, conducted by the National Opinion Research Center; and second, a broad survey of attitudes of various groups of Americans toward

Federal employment, conducted in 1959 and 1960 by the Brookings Institution.[2] Both studies are now several years old, and it is impossible to judge how much, and in what directions, the situations have changed since they were made. Nonetheless, the findings are interesting and provocative of hypotheses warranting further and more up-to-date study.

In the first place, the NORC study confirms the belief that higher education is a principal vehicle--very nearly the *sine qua non*--for upward mobility in our society. Fewer than one-quarter of the fathers of the graduating seniors had completed college themselves, and more than three-fifths had not gone beyond high-school. (Davis I, 18.) The parents of two-thirds of the graduating seniors had incomes below ten thousand dollars. And although, as will be shown below, a sizable majority were preparing themselves for professional careers, fewer than one-quarter (23 per cent) came from professional families. The occupations of two-fifths of the parents were described as skilled or unskilled labor, service, or farm.

In the second place, it is clear that the great majority of incoming freshmen in college--all but 8 per cent--had at least a rough idea of what career they aspired to pursue, and that most of these choices (70 per cent) were in the professions. (Davis II, 9-10.) In fact, all but one-eighth, who chose business and related occupations, were opting for professional activities, broadly defined, since about 18 per cent chose arts and sciences, most of them intending to go into teaching or research. Obviously the decision process is well underway prior to college. More than half of the total graduating population held to the same general career objective when they graduated--though the fields, as grouped by Davis, are very broad and could disguise substantial shifts within each category. They were:

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[2] The findings of the NORC survey were reported in two volumes, both by James A. Davis and both published by the Aldine Publishing Company, Chicago. The first was *Great Aspirations: The Graduate School Plans of America's College Seniors*, 1964, herein referred to as Davis I. The second was *Undergraduate Career Decisions: Correlates of Occupational Choice*, 1965, herein referred to as Davis II. The Brookings study, earlier referred to in Chapter IV, was reported by Franklin P. Kilpatrick, Milton C. Cummings, Jr., and M. Kent Jennings in two volumes, both published in 1964 by the Brookings Institution in Washington: *The Image of the Federal Service* and *Source Book of a Study of Occupational Values and the Image of the Federal Service*. They are referred to herein as Kilpatrick I and Kilpatrick II, respectively.

> Arts and Sciences: physical sciences, geological sciences, social sciences, and humanities;
> Professions: engineering, medicine, law, education and "other professions";[3]
> Business and Related.

Nonetheless, a substantial proportion, 37 per cent, changed their career field between their freshman and their senior years, and the nature of these shifts is of interest. All fields gained some new recruits and also lost some defectors to other fields. The big net gainers were business and education; both had relatively low losses and high gains. The principal losers were medicine and engineering (both of which fell by more than forty per cent), the physical sciences and "other professions." The other fields were "traders" for which losses roughly equated with gains.

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[3] "Other professions" comprehends a highly mixed and heterogeneous collection, so much so that the data referring to it are not very meaningful. It includes, for example, librarianship, foreign service, military, architecture, city planning, public administration, social work, journalism, accounting, and nursing. Apparently, the majority who are lumped in "other professions" are preparing for public service careers.

FIGURE I
Anticipated Career Fields[4]
(Percentages)

Field	As Freshmen	As Seniors
Education	27	33
Engineering	16	9
Law	4	4
Medicine	6	3
Other Professions	18	15
Physical and Biological Sciences	9	8
Social Science and Humanities	9	11
Business	12	18
Total	101	101

But some of the individual shifts are instructive: (Davis II, 26.)

of the net gainers:

Education gained from every field, most heavily from "other professions" and engineering;

Business gained most from engineering and lost some to education;

Social Sciences gained most from engineering, medicne and physical sciences, while losing to education;

Humanities gained most from "other professions," engineering, medicine and physical sciences, but lost heavily to education;

Biological Sciences gained most from medicine and "other professions" and lost most to education;

Law gained most from engineering and medicine;

Of the net losers:

Other Professions gained from engineering, medicine, and physical sciences, but lost to almost every other field, most heavily education;

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[4] Based upon data in Davis II, 9 and Davis I, 12.

Physical Sciences gained most from engineering but lost to almost every other field;

Medicine gained slightly from engineering, but lost to every other field;

Engineering lost to every other field, most heavily to business.

The NORC study undertook to correlate career choices at freshmen and senior years with a variety of demographic, attitudinal and other characteristics, and a few of these data are discussed below. But for the moment, it is worth noting that the characteristics which associated different kinds of freshmen with given fields of career interest were the same ones which discriminated between those who stayed in the field or came into it during college and those who left it. That is,"Career decisions in college tend to accentuate the occupational differences already present at the beginning of college." (Davis II, 45.[5]) The "deviants" initially identified with a given field switch out to another more fitting to them, and vice versa.

What are these characteristics of different career fields? There is here space only to summarize salient findings of a very few of them: sex, academic performance, social-economic status and occupational values. With regard to sex, there are sharp and expectable differences among different fields. Engineering is almost entirely masculine, and in law, medicine, business and physical sciences the ratio of men ranges from about four-fifths upward. In education, by far the largest field of all, 70 per cent are women, and the proportions of females in nursing and social work are even higher. In the other fields, the sexes are more or less evenly mixed with a slight preponderance of men, up to about two-thirds in the social sciences. The shifts during the college years, by a curious statistical quirk, have the effect of increasing the proportion of masculinity in every field.[6] (Davis II, 46-8.)

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[5] Davis, however, notes two exceptions: one concerns Negroes and probably derives from inadequacy of the sample; the other concerns the social sciences, where there appears to be a genuine change in understanding of the nature of the field during the college term.

A second characteristic analyzed in the study is the Academic Performance Index (API), reflecting the student's intellectual capacity and motivation during his college years.[7] Entering freshmen who are aiming for careers in the fields of medicine, the humanities, the social sciences, the physical sciences and law tend to attain better than average grade point averages. Freshmen choosing business are likely to have less than average academic success. Among the first three of these, particularly medicine, the initial recruitment advantage is strengthened during the college course by retention of high grade students and addition of new ones. But among most other fields, there is little change. It may be noted that, except for medicine, none of the traditional professional fields ranks as high as the arts and sciences. (Davis II, 48-50).

A third characteristic, social-economic status (SES), was determined on the basis of family income, occupation of head of household, and father's education. Relatively higher status is found among those aspiring to the "learned professions," law and medicine, with the humanities and social sciences following in third and fourth places. At the bottom of the scale are engineering, education, and physical sciences, a finding which supports the "hunch" that these fields are important channels of upward mobility in our society--education for women, engineering and sciences for men. (Davis II, 65-6.)

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[6] The paradox is explained by the fact that education pulls women from every other field, leaving the other fields more masculine; but education was so feminine at the outset that the incoming recruits, even though most of them are female, tend to pull down its own proportion of women.

[7] This was measured by grade point average, as reported by the student, adjusted for variations among the schools.

A fourth characteristic, and for our purposes the most interesting of all, was the values the respondents associated with desirable occupations. NORC reduced a considerable variety of potential values, developed in prior studies, to three basic ones proven to be substantially independent of each other. These are: (1) "opportunity to work with people rather than things"; (2) "opportunities to be original and creative"; and (3) "making a lot of money." They are here referred to simply as "people," "original," and "money." (Davis I, 31-36.) The findings are significant, if not surprising. "The general trend is for the people-oriented fields . . . to attract people-oriented people and for scientific and technological fields to be abandoned by those who are people oriented." (Davis II, 55.) Education and the professions associated with services to people (mostly in the "other professions" category) are "people" fields. The sciences and humanities tend to attract the "originals," whereas business and engineering are predominantly attracted by "money." The general configuration of student values as freshmen and as seniors were as follows:

FIGURE II[8]
OCCUPATIONAL VALUES

		As Freshmen			As Seniors	
Career Expectation	People	Original	Money	People	Original	Money
Education	H	M	L	H	M	L
Other Professions	H	M	L	H	L	L
Social Sciences	H	M	M	M	H	L
Humanities	M	H	L	L	H	L
Medicine	M	M	M	M	L	M
Law	M	M	M	M	L	H
Business	M	L	H	M	L	H
Biological Sciences	L	M	L	L	M	L
Physical Sciences	L	H	M	L	H	H
Engineering	L	H	H	L	H	H

There were more significant shifts among fields associated with occupational values than with regard to any of the other characteristics. That is, individuals tended to move toward fields which they perceived, during their college careers, as more in keeping with their value systems. Seniors in education, biological sciences, business, and engineering remained in the same positions as they occpuied during the freshmen years. But all the others changed. The "other professions" moved from Medium to Low with respect to "original." Social Sciences attracted persons more interested in intellectual pursuits ("original") and discouraged those who had conceived them as people-oriented fields. They moved in all three respects: from High to Medium with respect to "people" from Medium to High with respect to "original"; from Medium to Low with respect to "money". The humanities went from Medium to Low with respect to "people." Medicine and law both moved from Medium to Low with respect to "original," and law also came to be viewed as high with respect to "money." (Surprisingly, medicine did not change from the Medium posture in the "money" criterion.) Finally, the physical sciences moved in only one respect: from Medium to High in interest in "money."

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[8] The symbols are: H for High; M for Medium; and L for Low. (Based upon Davis II, 60.)

In summary terms, one may categorize the seniors choosing different fields as follows:

those who value "people" orientation highly tend toward education and "other professions";
those who value intellectual ("original") orientation highly tend toward engineering, physical sciences, social sciences, and humanities;
those who value money highly tend toward business, law, engineering, and physical sciences.

On the other hand, the "Lows" in occupational values included:

with respect to "people," humanities, physical and biological sciences, and engineering;
with respect to intellectual ("original"), business, law, medicine and "other professions";
with respect to "money," education, "other professions," humanities, and social and biological sciences.

The most surprising finding of the NORC study was the high number of graduating seniors who planned to do graduate work--more than three-quarters of the entire group and about four-fifths of all the men. In fact, "a bachelor's degree recipient is more likely to anticipate postgraduate study than a high school student is to anticipate college." (Davis I, 42-43.)[9] About one third of the total planned to begin their graduate work the following academic year, but only one-fifth had actually been accepted by a graduate school, suggesting that for some at least, the planning was a bit wishful. But the majority who planned on graduate work expected to put it off for some time in the future.

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[9] According to an earlier study, reported by Burton R. Clark, Educating the Expert Society, (San Francisco: Chandler Publishing Company, 1962),p.61 , only 40 per cent of high school seniors expected to go to college. This compares with 77 per cent of college seniors in the NORC sample intending to go to graduate school.

In only two anticipated career-fields did fewer than a majority anticipate no graduate work--pharmacy and housewives. But that the basic indication is not far from the mark was suggested in another NORC study of graduate students which found that more than two-fifths of them began their studies one or more years after completing their bachelor's degrees.[10] In respect to immediate or delayed plans for graduate work, there is a wide difference among career fields. In a few, such as law and medicine, immediate graduate work is a ncessity before one can begin his practice, and among these the great majority planned to begin graduate study at once. In some, it is possible to enter upon one's career at once at a fairly low level of responsibilities but advancement to full journeymen's status hinges on a graduate degree. This group includes such fields as education, social work and many of the sciences. In still others, it may not be essential but is still, by most college seniors, seen as desirable; these include, for example, business administration, engineering, accounting, journalism, etc.

Another significant finding, though not altogether surprising, is that, for the vast majority, the choice of field of graduate study is definitely linked with the field of career expectation; that is, graduate study is viewed as training for a vacation. This is of course true of virtually all who opt for professional schools. It is clouded among some of the arts and sciences because substantial numbers in those fields are preparing themselves for careers in education--elementary, secondary and college. (For example, 42 per cent of those preparing to study history at the graduate level intended to teach.) There are other kinds of discrepancies, all of them nonetheless consistent with vocational preparation. Some, studying economics, were preparing themselves for business; some studying political science were preparing for administrative careers in government; some studying philosophy were preparing for the ministry; etc. (Davis I, 54-58.)

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[10] _Ibid._, p. 61.

There is a definite and relatively high correlation between academic performance in college and interest in graduate school, especially in plans to go on to further study immediately. That is, a much higher proportion of the best students intends to proceed to graduate school at once. Yet, in spite of the fact that the academic performance of women is on the average superior to that of men, a much higher proportion of women than men prefer to put off further graduate study to some time in the future. This in part reflects the differences in career patterns: the dominantly feminine fields of education, nursing, social work, etc. do not demand graduate degrees for practice as do some of the dominantly masculine fields of law, medicine, and dentistry.

The NORC graduating seniors who planned to go on to graduate school were asked to check what types of activities they expected to carry on during their careers: whether teaching, research, administration, or service. More than half checked teaching, a proportion heavily weighted by those aspiring to the career field of education. Above the average were those in the humanities and biological sciences. At the bottom of the scale were business and the professions of law, engineering, medicine and social work. Fewer than a quarter expected to conduct research, and here again, some of the professions--law, education, social work, nursing and business-were near the bottom of the scale. However, more than half those planning on engineering expected to do some research as did two-fifths of those aiming for medical schools. "Administration" attracted only one-third of the future graduate students. Only law and engineering among the standard professions reported were above that mark, and for neither was the percentage as high as half. Business of course was very high in this activity, and in both economics and political science more than half the future graduate students anticipated administrative responsibilities. It is significant that so few in medicine (six per cent), social work, and almost none in the physical and biological sciences checked this item, even though, as indicated earlier, very substantial numbers of our career administrators come from these fields. The service activity was checked principally by those aiming for the service professions of medicine, social work, nursing and law.

The accompanying table summarizes some of the findings of the NORC study with regard to the characteristics and attitudes of the college seniors expecting to go on to graduate work, who, as indicated earlier, constitute a considerable majority of all graduating students. It may be useful, for the understanding of the table, to indicate the bases (percentages or averages) of the entire future graduate student population on which it is premised. Of those seniors who expected to go on to graduate school:

1. 58 per cent were male.
2. over-all data on social and economic status are not available.
3. 53 per cent were Protestant; 25 per cent, Catholic; 7 per cent, Jewish.
4. 54 per cent checked, as one of their occupational values: "opportunity to work with people, rather than things."
5. 23 per cent checked: "making a lot of money."
6. 53 per cent checked: "opportunities to be original and creative."
7. 54 per cent regarded themselves as "conventional."
8. 49 per cent regarded themselves as "liberal."
9. 19 per cent rated themselves in the top fifth of their classes; 44 per cent placed themselves in the bottom half of their classes.
10. 33 per cent intended to go to graduate school next year.

11.-15. Of all the future graduate students: 55 per cent checked teaching; 23 per cent checked research; 32 per cent checked administration; the percentage checking "service to patients and clients" is not available.

FIGURE III
COMPARATIVE SUMMARY OF CHARACTERISTICS OF FUTURE GRADUATE STUDENTS AMONG GRADUATING SENIORS BY SELECTED GRADUATE FIELDS[11]

	Professions							Sciences--Social & Humanities						
	Medicine	Nursing	Engineering	Law	Social Work	Education	Health (Other)	Business	Physics	Chemistry	Biology	Economics	Political Science	English
General and Background Characteristics														
1. Sex (Male)	H	L	H	H	L	L		H	H	H		H		L
2. Social-Economic Status	H			H						L			H	
3. Religion (Protestant)	L			L							H			
Values and Attitudes (self-described)														
4. People-Oriented	H	H	L		H	H			L	L	L	L		
5. Money-Oriented		L	H	H	L	L		H						
6. Originality-Oriented	L	L	H	L	L		L	L	H	H	L			H
7. Convetional		H				H			L			L	L	L
8. Liberal					H							H		
9. Academic Performance	H				L	L	L	L	H		L			H
Plans and Expectations														
10. Graduate School Next Year	H	L		H		L	H	L	H	H				
Career Activities														
11. Teaching	L	H	L	L	L	H	L	L		L	H	L		H
12. Research	H		H		L	L			H	H	H	H	H	
13. Service	H	H		H	H		H		L	L				L
14. Administration	L		H		L	L	L	H		L	L	H	H	L

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[11] Items are checked H for high, or L for low, where the field differs by ten per cent or more above or below the average for all future graduate students. Those which are unmarked fall in the middle range. Based on Davis I, especially 183-7 and 223-232.

Some general observations about the table and the data on which it is based are appropriate. First is that in certain characteristics--where there are a large number of highs (H's) and lows (L's) there is a fairly wide spread, and relatively few fields of activities fall in the middle twenty per cent. Thus, most of the fields are predominantly male or predominantly female, particularly among the more established professional fields. Likewise, there is polarization in occupational values in different fields, in academic performance, and in anticipated career activites. In contrast, religious association with different callings is not pronounced excepting in law and medicine (in both of which there is a relatively heavy Jewish population). In general, the future professionals, excepting only engineering, regard themselves as more conventional than do those going into the arts and sciences. The range is not great among the fields as to "liberalism," but in general a higher proportion of those in social science and humanities consider themselves liberal than in the hard sciences, and most of the professions--excepting social workers--are lower than the mean, with business and engineering low among these latter fields. Less than a third of all future graduate students anticipate administration in their careers, and this proportion would be considerable lower if the high figure for business (80 per cent) did not pull it up.

The Choice of Employer, Public or Private

The selection of the kind of employer a student expects is in some cases implicit in his choice of field of study. Thus, one would anticipate that the great majority studying business administration expect to work for private business; or that those in education expect to be employed by schools, most of which are public; or that those in medicine anticipate

private practice. The NORC study, which included a question as to who would be "your most likely employer when you begin full-time work in your anticipated career field," confirmed these expectations, but it also revealed rather surprising alternative choices in these fields as well as in the others. (Davis I, 232 ff.)
The respondents were permitted to check more than one type of employer when they did not have a definite expectation so that the total of items checked considerably exceeded the number of students.

A surprising and perhaps gratifying proportion--exactly half--of all the students expected an educational employer--either a college (15 per cent) or a school (35 per cent). Only one-third expected to be employed by a private business, and only nine per cent anticipated self-employment, the traditional posture of the professional. Aside from education, the anticipation of public employment was relatively low. Fourteen per cent checked the Federal government, and only 5 per cent checked state or local government. Inasmuch as Federal employment is relatively stable and state and local employment is among the most rapidly growing in the nation, this finding (which confirms the author's impressions) is a source of some concern. State and local employment is very low on the status ladder of future college graduates. In fact, the only field for which state and local governments (other than educational institutions and public institutions like hospitals) appear significant as prospective employers is social welfare, but it was checked by only one-third of these. On the other hand, two-thirds of the same group checked "hospital-church-clinic-welfare organization, etc." Very probably one of the fastest growing employers of engineers in the nation are state and local governments, but only 6 per cent indicated them as prospective employers--compared with 20 per cent for the federal government and 80 percent for private business.

Private business was the expectation of large majorities of future graduate students in business, engineering, law and chemistry, and about half of those going on to study physics and economics checked business employment as a probability. The only group of which a majority expected self-employment was medicine. The Federal government attracted a majority of only one category--political science--but one-quarter or more of several fields checked it as a prospect: law and several of the social and physical sciences. College education attracted few of those preparing for the established professions, but substantial proportions of virtually all those in the arts and sciences anticipated a career of higher education.

In order to evaluate the different choices of employers in relation to academic caliber, the NORC analyzed, for a few of the fields, the proportions of male students who were in the top fifth of their classes on the basis of academic performance. Here the picture is striking: colleges and universities are attracting the highest proportions of the strongest students, research organizations are second, and elementary and secondary education is at the bottom of the scale. The differences are very substantial and are consistent in almost every major graduate field. The Federal government and private business fall in between, each being somewhat below average in the proportions of top-level students whom they attract.[12] There is not much evidence that, over-all, a business career is more or less attractive to the best students than one in the federal government. Business was distinctly more attractive than government among the superior students intending to study engineering or business; the verse was true in the fields of education, the social sciences, and the humanities. The basic conclusion is" . . . that the academic world that produced them has the greatest attraction for the students who are most successful in its eyes; the elementary and secondary schools that prepared them attract the less successful grade-getters; other employers fall in between without much systematic difference." (Davis I, 238.) This evidence confirms the complaints of those who, in recent years, have asserted that neither business nor public administration is recruiting its share of the best that the colleges are producing. On the other hand, it should be borne in mind that the standards of measurement are themselves academic and are not necessarily an accurate index of future career potential in other than academic spheres of activity.

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[12] Unfortunately the NORC provided no data on academic performance for those who checked state and local government. One would guess, however, that among those opting for these employers the proportions of top,grade students would, like elementary and secondary education, be very low.

The NORC in the late spring and summer of 1962 conducted a follow-up study of the same people it had the previous year surveyed as college seniors. With regard to graduate school experience, the findings of the later study generally confirmed the plans and expectations reported in the earlier one, despite some significant variations.[14] Nine-tenths of those who _definitely_ planned on attending graduate school and had been admitted at the time of the first study actually did so. In addition,

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[14] The findings of the later survey were reported in Norman Miller, _One Year After Graduation_, NORC Report No. 93, June, 1963.

FIGURE IV
COMPARATIVE SUMMARY OF PROSPECTIVE EMPLOYERS OF FUTURE GRADUATE STUDENTS AMONG GRADUATING SENIORS BY SELECTED GRADUATE FIELDS[13]
(Percentages)

	Medicine	Nursing	Engineering	Law	Social Work	Education	Health (Other)	Business	Physics	Chemistry	Biology	Economics	Political Science	English	All Graduate Students
Private Business*	7	0	80	77	6	4	11	91	50	66	9	49	21	16	35
Self-Employed	76	0	3	30	1	1	46	6	2	0	5	3	3	5	99
Research Organization	16	2	14	1	5	1	10	3	47	43	20	8	7	2	8
College	9	9	8	3	3	7	5	3	42	30	12	31	26	45	15
Elementary-Secondary School	1	5	1	2	10	88	7	2	8	6	61	5	15	42	35
Federal Government	6	8	20	28	13	3	7	16	33	17	11	36	58	6	14
State or Local Government	2	12	6	11	33	3	3	3	0	3	3	6	13	2	5
Hospital, Church, Welfare Organization	34	75	0	0	66	4	35	1	1	2	2	1	2	3	10
All other	2	5	2	5	3	2	2	3	0	1	2	4	9	4	3.
Total	153	116	134	157	140	113	126	128	183	168	125	143	154	125	

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[13] Based upon Davis I, 234.

* including large companies, small companies, and family business.

a substantial number who did not expect it actually went on to graduate work, so that the proportion of all the seniors who attended graduate school the first year after college (35 per cent) actually exceeded the proportion who expected during their senior year to do so (32 per cent).[15] Women were more likely to change their plans to attend than men.[16] The great majority were studying in the same fields they had anticipated as seniors, but from some fields, notably social and biological sciences, humanities and "other professions" there were substantial shifts. By far the largest net "gainer" was education. In response to the inquiry about future plans as of 1962, the great majority who were then in graduate school expected to continue the following year, and in a surprising number of different fields, the majority intended to proceed to a doctoral degree. In addition, a substantial number of those who did not attend graduate school their first year following college planned on starting graduate work the second year. Thus, more than half of the original college seniors would have graduate school experience by the end of their second year after college.[17] In all, the later NORC report adds to one's confidence in the reliability of the earlier reported expectations.

The Attraction of Public Service

There have over the past several decades been a growing number of studies of prestige of government *vs*. other kinds of employment, and a few of these have focused upon, or segregated, attitudes of college students and graduate students. The significance of these for our purposes rests on an assumption, itself unproven but nonetheless generally reasonable, that there is an association between prestige value and recruitability for employment. A general finding--almost a premise among political scientists--is that public employment has relatively low prestige among the population at large, relative to private employment and relative to other countries. Some recent studies have called this generalization into question. There is some indication that the prestige of public employment has been rising since the nineteen-twenties and is no lower than in Great Britain and some other countries.[18] More meaningful for our porposes have been the findings of studies that focussed upon particular categories of respondents and particular kinds of public employment. Although the evidence is far from conclusive, it seems reasonably safe to draw certain generalizations:

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[15] Ibid., pp. 2-3.

[16] Ibid., p. 14.

[17] Ibid. Summarized from Chapter IV and Appendix I.

1. *Women are more likely to be favorably disposed toward government than men.* (This finding has been quite consistent in all studies which distinguished the sexes. Note also the disposition of the women college students in professional fields to move into public service professions such as elementary and secondary education, social work and nursing, and to opt for public employment, noted earlier.)

2. *There is an inverse correlation between public service prestige and socio-economic status*: those of lower classes are distinctly more favorable than those of higher.

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[18] See particularly Morris Janowitz, Deil Wright, and William Delaney, *Public Administration and the Public--Perspectives Toward Government in a a Metropolitan Community*, (Ann Arbor: Bureau of Government and Institute of Public Administration, University of Michigan, 1958). Chapter V.

On the other hand, a series of nationwide polls conducted by Roper showed a considerable drop between 1939 and 1962 in the proportion who would prefer government employment. Reported in Kilpatrick . . . II, *op.cit.*, p.660.

3. *There is an inverse correlation, at least up to the point of college graduation, between public service prestige and education:* those with more education hold public service in lower esteem. (This is undoubtedly a correlate, in part, of 2 above--socio-economic status--since the middle and upper classes are more likely to go further in school. As will be suggested later, however, there are other factors involved.)

4. *Those more favorably disposed toward an expanded or liberal role of government hold public service in higher esteem.*[19]

5. *The attitudes of those in private business and in certain professions, particularly those having to do with things, such as engineering and hard sciences, are highly unfavorable to public employment.* Confirmatory findings were more recently reported in a study of engineering students and young scientists and engineers by William Jasper in 1961 on the basis of group interviews and questionnaires. See Kilpatrick II, 659-60. (Very probably, comparable attitudes would be found among some other professions, notably medicine, architecture, and, except for attitudes toward political positions, law.[20]

6. *Public service prestige rises with the level of government under consideration: federal employment ranks above state, and state above local.*[21]

The most comprehensive and penetrating study of occupational values and public employment was that conducted by the Brookings Institution in the early nineteen-sixties, already referred to. It was addressed to the Federal level of employment only, but, if item 6 above remains valid (as it probably does), one may interpret the findings as more favorable toward the public servie than if the study had applied to state and local employment as well. It segregated and separately analyzed the student population at the high school (junior and senior), college senior, and graduate student levels. In general, the findings confirm, with regard to students, all of the generalizations above except 4 and 6, about which it provided no data:

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[19] A specific finding of the Janowitz . . . study in the Detroit area, pp.69-70.

[20] See Kilpatrick II, p. 313. The distinctly unfavorable attitudes of scientists who work in government toward their governmental employment was emphasized in a study by Clark D. Ahlberg and John C. Honey, *Attitudes of Scientists and Engineers About Their Government Employment*,(Syracuse, Syracuse University, 1950).

[21] First postulated by Leonard D. White in *Further Contributions on the Prestige Value of Public Employmant*, (Chicago: University of Chicago Press, 1932), on the basis of a questionnaire study in ten cities.

> female students are more favorably inclined toward federal employment and federal employees than males; (Kilpatrick II, Chap.20)
>
> college seniors are distinctly less favorable than high school students and somewhat more favorable than graduate students; (Kilpatrick I, 130)
>
> high school students from lower-income families are distinctly more favorable to federal employment than are those from higher-income familes, but the differences disappear in college, probably partly because the college population, on average, comes from a distinctly higher-income group; (Kilpatrick I, 105-6)
>
> of the three major groupings of college seniors and graduate students reported in this study, by far the least favorable toward Federal employment were the engineers; following were those in natural sciences and then those in the social sciences. (Kilpatrick I,108-9)

The Brookings study asked its respondents to rank Federal employment against that in a large private business in a number of different respects. Among the seniors and graduate students in engineering and the graduate students in natural sciences, business ranked distinctly higher; among those in social sciences and seniors in natural sciences, government ranked higher. (Kilpatrick I, 109.) Unfortunately, the study did not ask for comparisons with other types of employment. Business and the Federal government together claim less than half of the college graduates, and it is very probable, as indicated earlier, that the majority of the top-grade students are aiming for college or research careers. (The Brookings study itself found that forty per cent intended to go into an educational career.)

Though this finding suggests a stand-off between business and government, other questions graded by the student respondents gave business a clear preference. These included: (Kilpatrick II, 251-265.)

"For a young man of ability, his best chance for really being successful lies in ________."

"A person who works for the ________ generally has a good chance to get ahead."

"A young man of ability who starts work in ________ has a good chance of ending up in one of the top level jobs."

"Most jobs in ________ are routine and monotonous."

The only statement for which the federal government came out on top among the students was: "Employment with ________ offers a high degree of security." (Kilpatrick II, 251.)

It was suggested earlier that a principal reason why college students are less favorable toward public employment than the high school population is that they are, to a declining extent, a select group, heavily weighted toward upper middle and upper income familes. But the data suggest that there are other forces at work. In the first place, there is no significant difference between the college seniors and graduates who come from less well to do families and those from the more affluent families with regard to their attitudes toward Federal employment. Apparently the selectivity involved in deciding to go to college or the college experience itself, or both, dissipated the impact of socio-economic differences in attitudes. And the change was generally away from a favorable attitude toward the public employer. Secondly, of the groups reported, the two which were least favorable to Federal employment are engineering and the natural sciences. But, as noted earlier, these two include substantial numbers from lower-middle and lower income families in the population, whom one might expect to be favorable to public employment. They are, indeed, among the principal avenues of upward mobility in our society.

Finally, it is of interest to note the kinds of occupational values the students associate with Federal employment as compared with private employment. In general, it may be said that their perceptions envision many of the same advantages and disadvantages and stereotypes as those of the population as a whole, though in somewhat different proportions. The greatest advantage associated with Federal employment by far is "security and fringe benefits." The greatest disadvantage is "lack of self-determination." Second among the advantages is "financial reward," and second (among some groups third or lower) among the disadvantages is "poor financial reward." And high among the perceived disadvantages is "bureaucracy, red tape." Somewhat surprisingly, only one-tenth of the college seniors mentioned "worthwhile service" as an advantage. It is interesting also that among college seniors and graduate students, financial reward was seen much more often as a disadvantage than as an advantage, in direct contrast with the perceptions of the public at large. (Kilpatrick I, 130-34.)

Insofar as the advantages and disadvantages of Federal employment as perceived by the students reflect the reasons why they do or do not enter upon Federal careers, the Brookings findings are pretty discouraging for federal recruiters. For they suggest that those who will opt for government are seeking security, adequate pay and benefits, and pleasant environment--and not much else. This is particularly true of the men. And those who shun it are repelled by its perceived limitations upon initiative and creativity, its red tape, and its inhibitions against advancement to positions of responsibility. The engineers mentioned security as a positive factor; but

but against public employment they cited poor financial reward, lack of self-advancement and progress, and lack of self-development, self-expression and creativity. They also complained of the lack of self-determination, along with all the other groups, particularly those in the physical and social sciences. (Kilpatrick II, 574-6.)

It does not appear that the Federal government is attractive to very many aggressive, imaginative, and dedicated young college men, particularly those in some of the significant professional and scientific fields. And one doubts that the state, county and city governments are doing even as well. It should be stressed that these are the reported perceptions of students, and there is little basis whereby one can say they are right or wrong. Their evaluations are somewhat less critical of Federal employment than upper level business executives and professionals, somewhat more critical than the general employed public. But they constitute a crucial sector of the society since they are a sample of the pool from which our future public executives will be drawn.

Figure IV summarizes the views of male and female college students on advantages and disadvantages of Federal employment in comparison with high school students and with the general employed public. Obviously, the college groups in general find a good deal more to criticize about Federal employment than do those in high school or those already at work. Like the other categories, the principal advantage they perceive is security. A somewhat smaller proportion of them than of the other groups consider government financially rewarding. On the other two "advantages" listed--"interest, enjoyment, satisfaction" in the work and "travel, leave, recreation, etc." they are higher than the other groups--but a relatively small minority considered these significant.

FIGURE IV
VIEWS OF STUDENT GROUPS ON BETTER AND WORSE FEATURES OF FEDERAL, COMPARED WITH PRIVATE, EMPLOYMENT[22]
(percentages)

	High School Students		College Seniors		Graduate Students		General Employed
	Male	Female	Male	Female	Male	Female	Public
Better in Federal Employment							
security, stability benefits	50	35	51	28	40	31	42
financial reward	31	34	16	28	14	30	26
interest, enjoyment satisfaction	9	7	12	22	13	20	1
travel, leave, recreation	4	10	7	22	11	15	10
Worse in Federal Employment							
lack of self-determination	20	12	32	22	35	28	22
bureaucracy, red tape	9	6	24	18	26	41	16
financial reward	23	13	32	14	28	13	13
lack of self-advancement	17	8	21	10	15	5	3
lack of emphasis on merit in promotion	3	3	16	8	15	6	3
lack of drive, initiative	0	0	8	4	13	2	5
Total number answering	230	117	262	134	296	82	1077

[22] Based upon Kilpatrick II, 572 and 227-239.

Among the college students, the differences in perceptions of Federal employment between the sexes are striking. The men find far more to criticize, far less to attract, than do the women. Twice as many men found financial reward a disadvantage as found it an advantage, whereas, among the women, the proportion is almost exactly reversed. The principal Federal attraction for the men--the only one for a good many of them--is security. Far fewer women than men listed security and they found a number of other favorable features. And they are significantly less concerned about propects of advancement and infringements upon individual autonomy and drive.

Concluding Observations

On the basis of the foregoing data, the general prognosis for the drawing power of the public services for the future professionals is not encouraging. This is particularly true with respect to: state and local employment--one of the biggest growth industries; the top grade students; the general and competitive career fields, expecially engineering and the natural sciences; and men in comparison with women. The sex differences are pronounced and consistent. Women, on the average, are better students than men. Yet, for historical and social reasons, they are less demanding and less ambitious in their career aspirations. The majority of them gravitate toward the less prestigious fields of school teaching, nursing, social work and librarianship; and the preponderance of employment opportunities in these fields lies in the public services. This may partly explain their generally more favorable view about public employment.

Among those preparing for the general professions, most of whom are men, it appears that current shortages in numbers will become more severe in public employment. And present deficiencies in quality will intensify. The principal attraction for the best students is college-level teaching, followed by research, and government comes in last or nearly last for most of these students. The majority associated government with such passive values as security, fringe benefits, and pleasantness of work surroundings rather than challenge, initiative, creativity, and advancement.

The data generally confirm the notion that a good many young people have pretty well made up their minds what career fields they will pursue before they get to college; the majority had decided as freshmen and persisted in the same general line as seniors. While more than one-third changed their directions during the college years, this was generally toward fields more consistent with their basic occupational values. This suggests that the college experience had some influence upon the career decisions of some of them. With regard to their attitudes toward governmental employment during their college years, the evidence suggests that college had a somewhat negative influence, particularly among engineering and the sciences and also among the top-grade students in almost all fields. Perhaps the principal influence of faculty contacts and curricula, which are discussed in preceding sections, is in strengthening attitudes and biases already held.

Before closing this section on such pessimistic notes, I should call attention to four caveats about these studies and these conclusions. First is that both the NORC and the Brookings studies were conducted in 1960 or early 1961--before the Kennedy and Johnson administrations could have a significant impact upon college populations. It is very possible that the stances of these administrations, including the Peace Corps and poverty programs with their emphases upon college graduates, considerably improved the image of the public service generally and of the Federal service in particular. We do not know the extent of this influence nor of the (probably) negative influence of the Vietnam War.

Second, these studies depended upon the veracity, the reported expectations, and introspection of the respondents, and like other surveys of this kind are subject to a certain amount of skewing from various sources. However, both the NORC and the Brookings surveys were planned and executed with much sophistication and care, and their findings appear to be reliable. Most of the original NORC finding were confirmed in the follow-up survey of 1962.

Third, the samples in the studies, though scientifically chosen, were insufficient is size to provide reliable data except for the largest fields and clusters of fields. A good many professions of key significance to government--such as city planning, public administration, public health, foreign service--were for the most part lumped in with others. And among the larger professions, such as engineering or medicine, it would have been useful to learn more about the attributes and attitudes of those heading toward specialized fields such as civil engineering or mechanical engineering, psychiatry or public health.

Finally, the assessment of attitudes toward such huge aggregations as Federal government or state and local government undoubtedly warps and probably biasses realistic attitudes against realistic employment probabilities.

It seems very likely that a student of science who might react vigorously against the federal government in general might at the same time think of NASA or a defense laboratory as a highly desirable employment opportunity. The same might be said of a prospective civil enginner and well reputed state highway department, a doctor and the National Institutes of Health, a forester and the US Forest Service, etc.[23]

Obviously we need to know a great deal more than we do about the students who will occupy the pools from which governments will draw many of their workers and most of their future leaders. We need also to know about their processes of career choice and the influences which steer them in one or another direction. The information currently available is sketchy, but it suggests that the recent and current situations are a source of grave concern for those interested in strengthening the public service.

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[23] Evidence of such differentiation between attitude toward Federal government generally and a specific agency in one's own line of career interest is provided for the generally employed public in the Brookings study. (Kilpatrick II, Chapter 10.) As might be expected, the specific agencies prominent in the functional fields of career generally were favored over other types of Federal employment. This question was not explored among the students.

CHAPTER VI

SOME CONCLUSIONS, PROBLEMS, AND A PROPOSAL FOR RESEARCH

At the risk of some repetition, it may be useful here to draw together some of the more significant propositions discussed in earlier sections of this monograph.

First, American society is rapidly becoming a professional society, or at least one which is professionally led. The fastest growing occupational sector consists of professional and technical people. At the present time about one-eighth of American workers are in professional and technical fields. This compares with one-tenth in 1950 and one-sixteenth in 1900.

Second, the leaders in the employment of professionals are American governments at every level. More than one-third of all the professional and technical workers in the United States are currently employed by government and this does not include a multitude of scientists, engineers, and others who are indirectly employed by government through contracts, subsidies, and grants. Furthermore, about one third of all government employees are classified as professional or technical or similar types of workers. This is more than three times the comparable proportion in the private sector. It is heavily inflated by school teachers who are classified as professional. However, even if the school teachers are left out, the proportion of professionals to total public employment is nearly one-fifth, more than double the comparable proportion in the private sector.

Third, leaving aside the political appointees at or near the top of our public jurisdictions, the administrative leadership of government is increasingly professional in terms of educational and experiential backgrounds. That is not to say that the public leadership as such is an administrative profession; rather it consists of a very wide variety of professions and professionals in diverse fields that are closely related to the missions of the agencies in which they lead.

It should not be necessary at this point to debate further the influence that the departments and bureaus and other agencies of government excercise in the direction of public affairs. Although there is undoubtedly wide variation in this respect among different agencies, their impact upon policy and program is almost everywhere considerable, in some cases great, and in a few, virtually exclusive. Insofar as these public agencies are themselves peopled and governed by professionals in various fields, this means indirectly that the professions are exerting a great and probably growing influence on the course of public policy--i.e., in its larger sense, on politics. There is here a curious paradox because almost all of the professions have self-consciously and probably sincerely dedicated themselves to rationality, to science, to objectivity, in short, to being non-political and even anti-political. In fact, one could almost say that the very political strength of most of the professions rests on their avowed and popularly accepted image of being non-political.

Insofar as the professionals are assuming places of dominance in many of our public agencies and increasing importance in the shaping of public policy, it behooves us to look at the processes whereby such men are chosen, developed and educated, oriented, and experienced. The preliminary evidence of this study suggests certain hypotheses:

First, may be emphasized the increasingly direct and binding connection between professional education and career. As knowledge requirements grow in the different fields, it is becoming increasingly difficult for professionally trained people to transfer from one field to another. The vocational choices that a budding professional makes in his youth, even at the high school level, may become career commitments for the length of his working life. The opportunities for lateral transfer from one vocation to another decline as the requisite educational requirements for each increase. In most professional fields, these requirements mean from four to eleven years of schooling at the university level.

Second, most of the available evidence indicates that government employment has a relatively low prestige value among most of the professions, particularly those which are competitive as between public and private employment, and that the prestige of government declines the further one has advanced up the educational ladder.

Third, the pressure for increasingly scientific subject matter, accompanied by the continuing pressure from the professions themselves for vocationally oriented materials, has substantially inhibited the growth of liberal arts, including both the humanities and the social sciences, in professional curricula. We are producing young professionals far better educated than in the past in technical subjects but not appreciably more knowledgeable and understanding of the social problems which they will be called upon to deal with, particularly if they opt for government and reach the upper positions of responsibility.

Fourth, the bias against politics and even against government cited above appears to extend into the faculties and the curricula of the professional schools; there seems to be little treatment or discussion of public problems, policy, and organization in most professional curricula. In those professions which start with the freshmen year and include no college level preprofessional education, this is a particularly serious problem.

Fifth, the faculties of the professional schools are increasingly oriented toward scientific subjects and, among those professions in which the government must compete with the private market, toward the values and desirability of employment by private agencies or in private practice. In other words, there is a general bias in many professional schools against government employment and against teaching the kinds of subject matter which might be relevant to government employment.

Sixth, although there has been increasing attention to the fields of administration and management, these are usually taught with reference to private business and the sociological theories of organization which are themselves based largely upon private business models. In other words, little attention is given to the special and unique problems of administration and management in government agencies.

Sweeping generaliaations such as these about all the professions and all professional education undoubtedly obscure wide differences among the different fields. For example, it may generally be true that the public service professions give more attention to governmental problems and the social context of professional operations than do the general professions. Unfortunately, there has been little comparative study of different professions and different professional training programs in these, or any other regards.

The Malaise of the Field of Public Administration

The principal, almost sole, field of academic education which has directed its efforts specifically to the preparation of governmental leaders is that of public administration. The contributions of the field to the practice of the American governance in terms of concepts, reforms, and leaders have been substantial. Yet in terms of numbers and of influence it has not grown nearly in proportion to many other fields of academic preparation and some today feel it to be in serious difficulty. Its obvious relationship to the problems discussed in this monograph warrants a brief comment about its somewhat special situation. As has been indicated in earlier chapters, virtually all of the professions are undergoing a period of uncertainty, unrest, and ferment. Their boundaries are unclear, and the nature of their inner content--in terms of knowledges and skills--is the object of much soul-searching, internal debate, and external as well as self criticism. In all of these respects, public administration is comparable. But it also suffers a special kind of ambiguity of mission, role, content, and reputation.[1] It is likely that few in either the academic or the "real"world would qualify it as either a legitimate profession or as an academic discipline. And those who would deny these credentials include a good many of the disciples of the field itself. In his recent report on Higher Education for Public Service, John C. Honey states that: "Public administration is seen as the processes of government rather than as a discipline or profession."[2] Its posture as a discipline is clouded by the alleged absence of any agreed upon central body of theory and principle which is exclusive unto itself. Rather it draws upon the concepts and methods of many other disciplines, particularly the social sciences. It may be noted that, in this regard, it resembles a good many other fields of study. Its posture as a profession is clouded by the fact that most public administrators are in fact members of other professions, and only a minority have been systematically trained for public adminstration, associate professionally with other administrators outside of their first professional field, or link themselves in a professional organization of public administrators. Public adminstration, like some other fields, lacks many of the accoutrements of an established profession: standards of entrance into the profession; accreditation of schools; official recognition of degrees; licensing; a standard code of ethics. In one or another of these respects, the problems of public administration are matched by other fields which prefer to regard themselves as "professional": business administration, diplomacy, criminology, etc. But public adminstration is particularly plagued by the fact that most of its potential "members" are first of all members of other professions. If it is neither a discipline nor a profession, one may reasonably ask: what is it? Honey's enveloping definition, "the processes of government", comprehends much of the world--including most of political science--and is less than satisfying to delineate who the public administrators are.

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[1] Although its problems resemble those of business administration in some ways,of law in others.

[2] A report for the Council on Graduate Education for Public Administration, American Society for Public Administration, Washington, Nov., 1968,p.6

A parallel difficulty has been the inability of practitioners and scholars to agree on what the core knowledge, skills, and orientation of public adminstration should be. As we have already noted, this is a fairly common disease among the professions, but, for a number of reasons, it is particularly virulent in public administration. Even since Herbert A. Simon delivered his blast against what he called "The Proverbs of

Administration".[3], scholars and some practioners have found the striking down of principles an entertaining pastime. In substitution, some have offered broad general theories, after the style of Max Weber and others, or very narrowly circumscribed testable propositions, usually, in both cases, stripped of value considerations. In the first instance, the concepts are too global, general and abstract; in the second, too narrow, special, and trivial to be much value to the practicing administrator. As in other fields, the gap between scholarship and practice yawns ever wider as academia tends toward science and collegial respectability. And it becomes more and more difficult to identify the central core of what public administration is.

Public administration labors under two particular difficulties relating to self-definition which are nearly unique to itself. One has to do with policy and politics. It will be recalled that, while the other professions are providing the majority of leadership personnel in governments, almost all of them have self-consciously dedicated themselves to rationality, science, objectivity--in short, to being non-political and even anti-political. In fact, their very political strength rests in part on their avowed and popularly accepted image of being non-political. Major exceptions to this divorce from politics are law, which for historical and other reasons has long constituted a special case in this regard, and public administration. Since about 1940, the doctrine of non-separability of public administration from politics and policy has been a tenet of most academic leaders in the field. It is possible that this refusal to espouse a divorce of the field from politics has, for the past quarter-century, been a reason for its wayward growth as a respected, independent field of study and practice. By the same token, the growing interests of many of the younger scholars in the field in the non-political areas of systems analysis, operations research, sensitivity training, adminstrative behavior, etc. may regain some of the academic and professional stature sacrificed to the interest in politics.

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[3] In Adminstrative Behavior N.Y., The McMillan Co., 1947, Ch.2

The other special difficulty of public administration is that is has run against the times--and the other professions--in espousing generalism as against specialism. Most of the scholars, as well as the practitioners who identify themselves with public adminstration , like to view it as a process of synthesis wherein the information and views of specialists are brought together, judged, and welded into a decision. The bulk of the professions view themselves as specialists, and most of them have been subdivided into sub-specialties. On the whole, though with some exceptions public administration has resisted such internal fission. Curiously, the majority of actual administrators of public agencies reached their posts as specialists; and in the majority of those agencies, administration operates on the second or third rung of the hierarchy and is about as specialized as anything else.

Finally, I would mention two practical difficulties in relating education and career in public adminstration. First, there is, with only a scattering of exceptions, an absence of a clear and indisputable connection between the two. In the United States we have consistently resisted an adminstrative class, and most of our line adminstrative positions have been occupied by functionally specialized people--i.e., other professions. This has meant that the principal opportunities for graduates of public administration programs have been in fields not yet usurped by specialized professions. They have included some staff positions in personnel and budgeting and management analysis, and they have also included some of the newer fields in which professional dominance has not yet been established, such as housing and urban renewal, general technical assistance, and administration in foreign affairs. As new fields develop, such as the Poverty Program and the Peace Corps, people trained in public administration may move in, but in all probability they will later become, or be succeeded by, persons specifically trained and specialized for those fields. The only group, aside from some of the staff activities, for which education in public administration as such is specifically linked with career is the city-managers, and in this area, public adminstration has been very successful.

Second, in the absence of an administrative class system, training in administration as such is remotely useful and may even seem irrelevant to the young graduate student. He will not assume important administrative responsibilities until ten or fifteen or twenty years after he completes his training. Unless public hiring agencies give special and preferential treatment to them in terms of level of appointment and rapidity of advancement there is not much incentive for giving up a year or more for a vocational degree. The Federal Management Interne program is the best example of this kind of treatment.

The Malaise of Public Administration on the Campuses

The first university graduate programs in public administration were launched about forty years ago. Since that time, graduate offerings have become standard fare of the academic cafeterias; more than eighty institutions now offer some kind of graduate program in public administration. A majority of these emphasize the managerial aspects of administration and are directed mainly at young college graduates before they enter upon a government career. Most are carried on by and within departments of political science, but in some cases there are separate departments or colleges in public administration or public affairs. A few are institutionally linked with business administration. Most offer only a master's degree, but a handful of schools offer doctorates in this field.

There have been a number of new initiatives on some campuses during the fifties and sixties. A few new, separate schools have been established (as at Pittsburgh, Western Reserve, Washington, Oregon, Texas, and elsewhere) and some of the existing programs have been significantly enlarged and redirected (as at Harvard, Syracuse, Princeton and others). Yet the number of graduate students attracted by these schools remains very small, whether measured in terms of the growing needs of government or of the expansion of education for other fields and professions. Public administration on the campuses has suffered from some of the difficulties mentioned earlier. It has suffered also from some problems peculiar to the academic environment, particularly and in some cases exclusively among those universities which have not given it separate institutional status as a school or college. Some of these problems may be stated briefly and categorically.

There is considerable resistance among some faculty members, particularly in the arts and sciences, against admitting the training of public administrators as a proper objective of university education. The argument, which most of the professions have at one time or another confronted in their efforts to invade the campuses, is particularly virulent where the effort is pursued within academic departments and not in separate schools. In the face of limited resources, training for public administration often comes off a poor third against the demands for general education for a growing proportion of society and the demands for producing at the graduate level teachers and professors for the future.

The argument is strengthened in the minds of many other faculty members by their lack of acquaintance with, understanding of, and esteem for public administration, either as a profession or as a legitimate field of academic pursuit. The absence of agreement among public administration professors themselves as to what is the proper and teachable content of the field of course weakens their case. In one respect in which they enjoy a substantial consensus--that public administration must draw upon a number of different disciplines and professional fields--they run counter to some of the most impregnable barriers and prejudices on university campuses: the compartmentation of disciplines and departments which is at least as forbidding on the campuses as among the different functions and departments of governments themselves.

The discipline of political science is historically the mother of public administration. But a good many political scientists today regard this particular child as an ugly duckling, illegitimate, unwanted, and even a threat to the purity of the strain. Their predominant interests are toward social and political theory, behavioral science, quantitative analysis, few of which have yet contributed very much attention to the consideration and analysis of current public problems and their administration. The study of political science has for many decades swung on a pendulum between scientism on the one hand and public issues on the other, and it may today be starting a swing back from the former to the latter. But at this moment, it does not appear that more than a small minority of departments of political science provide very hospitable and friendly homes for the nurture and growth of this particular offspring.

The development and teaching of public administration is beleaguered from another, quite different, direction: the premise that administration is a common phenomenon wherever it occurs--whether in business or government or the church or elsewhere. This argues that public administration should be considered a sibling of business administration--somewhat undernourished and decidedly junior. This theme is by no means new, but it has recently been stimulated by the burgeoning growth of "management science," including such topics as operations research, systems analysis, games theory, etc.; and by the increasing interest in human relations, more recently labeled "organizational development." That these approaches and techniques are applicable and potentially useful in any kind of administration seems now to be widely agreed. But a dominating or exclusive emphasis upon them threatens the separate integrity of that branch of administration concerned with public issues in a political context. Experience to date suggests that schools of generalized administration are likely--for quite pragmatic, not ideological reasons--to be dominated by a business orientation. The business side attracts the endowments, the budgets, the fellowships, the students, and the faculties. Such schools are no more helpfully supportive of, and hospitable to, public administration than are departments of political science.

A final problem of public administration on the campuses arises from some, not all, of the professional schools themselves which breed public administrators. The larger ones develop and teach their own brands of administration, specifically directed to administration in their particular professional fields. In the cases of the "general" professions, contributing both to the private and public sectors, the brand is almost invariably based upon the business model and takes little account of the governmental scene. Even in those fields directed primarily toward public service employment, such as education, public health, and social welfare, there remains a considerable suspicion of public policy-making and the relationship between administration and politics, a suspicion deriving from the wide-spread bias against politics held by the professions in general. Administration courses in the professional schools often lean upon administrative theory, most of which has been developed from observations of business enterprises, augmented by "bread-and-butter" treatments of middle management processes in the administrative routine of the particular professional agencies themselves--schools, welfare offices, etc. Of course, many professional curricula offer nothing whatever in the field of administration and little or no opportunity to study it outside of the school or discipline itself. These include, by and large, medicine, law, and the natural and biological sciences.

Thus, to the general problems of public administration as an operating, semi-professional field are added a number of others having to do with educational preparation for public service leadership on the campuses, where for the most part education directed to such preparation is not respected as a discipline. These latter problems are most clearly manifested in the question of campus organization. A great many disciplines, departments, and professional schools are in the act peripherally; few or none recognize it as a principal motif. In such a milieu, should there be a separate school or center for education for leadership in public policy and its administration? If so, what should be its role and its relationship to political science, to a school of administration (or business administration), and to other schools and departments which produce governmental leaders? Underlying these questions of organization are problems of concept: the role of the university, vis a vis its responsibilities for the public service; the meaning and significance of the word "public"; problem orientation vs. discipline orientation; continuing education for administrators on the campus as against undergraduate and immediate postgraduate education; the content of programs and courses for public leaders; and many others.

It is unlikely that we can find answers to questions of this kind which are universally agreed, or which are final and permanent, or which are conclusively correct. But some hard investigations about where we are and where we are going, and some hard thinking about the problems and needs, now and in the future, and about the general directions in which we should be going could be of enormous assistance. In the light of the social problems facing America today, the response and the capabilities of the universities are inadequate and very possibly misdirected. We need an assessment and some imaginative guidance.

A Research Proposal

The problems and limitations of public administration, as an academic field, have recently been the object of a great deal of concern on the part of the Council on Graduate Education for Public Administration, the educational affiliate of the American Society for Public Administration. In 1965, it commissioned a preliminary study to propose a major research undertaking about education for public administration. This initial study, prepared by Professor John C. Honey, was published in 1966 under the title, "Higher Education for Public Service". Subsequently, the Honey report, with commentary by a number of scholars and practitioners, was republished in the November, 1967 issue of the Public Administration Review. That report, and the subsequent negotiations with foundations and with certain governmental agencies, proposed a number of different objects for research and laid emphasis upon the needs of studying education in a broad variety of professions which prepared individuals for public service and administration, including but in addition to, the field known as public administration. In this regard, its central premises were similar to those presented earlier in this monograph.

In view of the support by the author of this report of the Honey proposals and of the negotiations now underway, it is neither desirable nor appropriate that they be described and discussed herein. A few observations may, however, be in order.

In the first place, it is clear from this preliminary study that far too little is known about professional education in any field in its relation to the public service. The attention given to this aspect of professional education--by its own practitioners, by its own educators, or by outsiders,--is sparse or non-existent in most fields and inadequate in all of them.[4] Too little is known of where we are and whether we are tending to provide a sound basis for planning and correction in the future.

Secondly, the rapidly changing and developing problems of society dictate a climate of urgency for such study and for action growing out of it. The nation, perhaps even the world, is dependent upon the capabilities and the vision of those professionals who provide significantly to its leadership. This suggests that research should be oriented primarily toward the future rather than the past, toward changes that can be made now and soon rather than esoteric reviews of what has happened before. Empirical analyses are useful principally as guidance, rather than as history. The research should be applied and oriented toward action that should and can be taken by educational institutions, by governmental agencies, and, indirectly, by practitioners and students.

For this reason, a third consideration is proposed: that studies directed to individual professions and education for them be conducted by people who are well acquainted with those fields and with their educational programs and who are potentially influential in effectuating changes in those fields. That is, the research mechanism should be such as to facilitate, to the maximum extent, translation of findings and recommendations into action.

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[4] The outstanding exception was the excellent recent series of reports produced by the Committee on the Professional School and World Affairs under the auspices of Education and World Affairs. (522 Fifth Avenue, New York City.) These reports, which were published in 1967, addressed themselves to the reciprocal impact between international affairs and professional schools in each of eight fields: Business Administration, Public Administration, Agriculture, Engineering, Law, Medicine, Public Health, and Education. The study was organized somewhat along the lines suggested here for the broader study of the professions and the public service. Each study, or pair of studies, was produced by a task force consisting largely of educational administrators and professors in the appropriate fields.

It is suggested that the over-all research project be entitled Higher Education for Public Service Leadership. Over-all government of the project should be provided by a committee including distinguished representatives of universities, professional schools, and public officials knowledgeable about present and future needs of governmental agencies. This committee should operate through an executive director familiar both with the university setting and with government. The project itself would probably require at least two years. Major elements of the project, to be carried on simultaneously, should consist of the following elements:

1. needs for graduate education specifically focussed upon public policy and administration (or public affairs)
2. individual studies directed at the education of professionals in various fields which have substantial impact upon public service leadership; these should include, at least:

   general professions: agriculture; business; engineering; law; medicine (including psychiatry) and the more important of the para-medical professions;

   public service professions: city management; city planning; diplomacy; education; forestry; military; public health; social welfare;

   sciences: physical: biology; chemistry; mathematics;
   social: economics; psychology.
3. general (undergraduate) education and public service leadership.

Each of the sub-studies indicated above should be conducted under the guidance of a committee (including one for each professional field) which should be composed of educators in the appropriate fields, public officials in the appropriate fields familiar with their needs and employment, at least one representing the organized profession itself and at least one not in any way associated with the field. Primary staff for each of the sub-studies should be drawn from the appropriate field of education, even though in some cases it might be only part-time in nature. Furthermore, at least one representative of the executive director should provide liaison with each study group, attend its meetings, etc.

Findings and recommendations of each sub-study should be synthesized in a report which, following review of the sub-study committee, the central staff, and the general committee should be published and widely circulated among educators in the appropriate fields. Finally, the central staff should prepare a synthesizing report for review and issuance by the general committee. This report should include a major emphasis upon the over-all role of the university in the preparation of leaders for public service; obstructions to fulfilling that role most effectively; and strategies for overcoming them.

A variety of research methods is suggested. All should proceed from understandings about the past, the present, the trends, and the prospects for the future. All should be oriented to problems and correctives for those problems. They would include:

historical reviews of the development, quantitative and qualitative, of the pertinent educational field;

review and analysis of past, present, and prospective governmental needs and their relation to needs of the private sector, again both quantitative and qualitative;

content analysis of curricula with particular reference to its relevance to public problems;

survey research on the perspectives, attitudes, aspirations of students at various stages in their development; of faculties; and of selected public officials;

entensive study at selected representative institutions of organizational, procedural, and pedagogical impediments to flexible cross-disciplinary and cross-professional programs for present and future public leaders.

It is not feasible within the confines of this preliminary monograph to lay out a complete research design or a comprehensive listing of the hypotheses and problems which should be investigated. In fact, many of these hypotheses and problems, as they are visualized by the writer, have been suggested in earlier pages, particularly Chapters III through V. Among the principal research targets should be:

1. The respective roles and performance of pre-university education, undergraduate education, graduate education, continuing or in-service education;
2. the factors influencing the choice of educational and professional fields at different ages and among different social, economic, cultural groups in the population; and the factors influencing choice of public vs. other kinds of employment;
3. perceptions and attitudes of teachers at the high school, college, and professional school levels toward occupational opportunities and choices;
4. perceptions of public officials about the profession for which they were trained and the adequacy of that training for their public careers;
5. the socializing effects of university and professional education upon the students, with particular reference to professional norms and standards, understandings of content and purpose of the profession, and attitudes toward public service employment;
6. the content of educational programs with particular reference to materials and orientation toward social problems, management problems, and government generally;
7. government-college relationships in the recruitment and employment of professional personnel;
8. influence and interactions of public agencies, private employers, professional organizations *vis a vis* the content of educational programs, their orientation, and the definition of the profession itself;
9. principal career channels in government and between government and private employment in relation to educational background, orientation, and professional socialization;

10. backgrounds, frames of reference, and perceptions of professors about their field, their objectives, and their influence upon students, again with particular reference to social problems and the public service;

11. university organization, processes, norms, and mores and their influence upon professional education.

The list is suggestive rather than exhaustive. It grows from convictions that:

the future of American society will depend increasingly upon decisions and actions taken by governments;

the wisdom of the decisions and the effectiveness of the actions will depend upon the capabilities and orientations of professional leaders in public office;

and those capabilities and orientations depend upon the education and socialization imparted in educational programs at colleges and universities.

The list reflects too a suspicion that the universities are not doing as well as they might, or ought, or may have to if we are to survive. Yet they--and the rest of America--have given the topic remarkably little attention.